

WELCOME TO TECHNICAL ORDER 00-105E-9.

THIS IS SEGMENT 8 COVERING CHAPTERS 10 AND 11.



IF YOU WOULD LIKE TO GO DIRECTLY TO THE TECHNICAL ORDER, CLICK ON THE CONTINUE BUTTON.

TO SEE THE SEGMENT INFORMATION CHANGE NOTICE, CLICK ON THE NOTICE BUTTON.

CONTINUE

NOTICE



CONTACT

IF YOU NEED TO CONTACT THE TECHNICAL CONTENT MANAGER FOR THIS TECHNICAL ORDER, CLICK ON THE CONTACT BUTTON.

TECHNICAL ORDER 00-105E-9 TECHNICAL CONTENT MANAGER

WRITTEN CORRESPONDENCE:

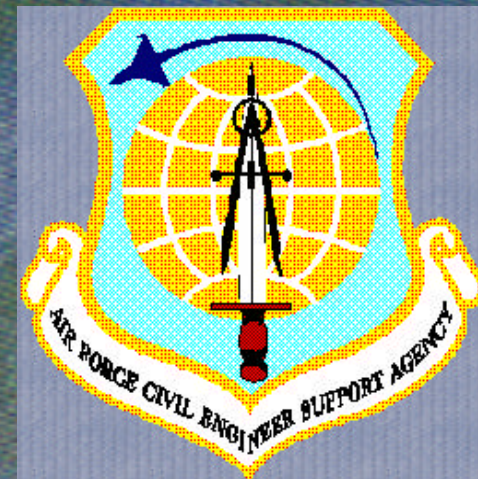
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For technical order improvements, correcting procedures, and other inquiries, please use the above media most convenient.

SEGMENT 8 INFORMATION CHANGE NOTICE

This page is provided to notify the user of any informational changes made to Technical Order 00-105E-9 in this Segment and the current Revision. Informational changes will be referenced in the Adobe Reader's Bookmark tool as a designator symbol illustrated as a <[C]> for quick reference to the right of the affected aircraft. The user shall insure the most current information contained in this TO is used for his operation. Retaining out of date rescue information can negatively affect the user's operability and outcome of emergencies. If the user prints out pages his unit requires, the user shall print the affected page(s), remove and destroy the existing page(s), and insert the newly printed page(s) in the binder provided for that purpose. A Master of this TO shall be retained in the unit's library for reference, future printing requirements and inspections.

<u>CHAPTER</u>	<u>AIRCRAFT</u>	<u>PAGE</u>	<u>EXPLANATION OF CHANGE</u>
10	RQ-1	ALL	New aircraft added to inventory (SS-7).
10	RQ-4A	ALL	New aircraft added to inventory (SS-4).
10	SR-71	ALL	Added paint scheme and dimensions page and re-numbered file.
10	U-2	ALL	Added paint scheme, dimensions page, updated the hazards and engine shutdown procedures. Renumbered file.
11	T-3A	2	Added materials information.
11	T-6A	2	Added hazards and materials information.
11	OT-47B, UC-35A/B/C/D, TR.20	ALL	New aircraft added to inventory.

NOTE

Chapter 10 contains emergency rescue and mishap response information for the following aircraft:

USAF	RQ-1
USAF	RQ-4A
USAF	SR-71
USAF	U-2

CHAPTER 10

U.S. AIR FORCE

OBSERVATION/RECONNAISSANCE

AEROSPACE EMERGENCY RESCUE AND MISHAP RESPONSE INFORMATION

10-1. INTRODUCTION AND USE.

10-2. This section contains emergency rescue and mishap response information illustrations in alpha-numerical order relative to type and model of aircraft. This arrangement of illustrations is maintained from Chapter 4 throughout the remainder of the publication.

10-3. GENERAL ARRANGEMENT.

10-4. Aircraft type designation has been positioned in the upper right corner of the horizontal illustration for rapid identification. Additional aids to rapid orientation are:

a. Recent technological advances in aviation have caused concern for the modern firefighter. Aircraft hazards, cabin configurations, airframe materials, and any other information that would be helpful in fighting fires, the locating and rescue of personnel will be added as the information becomes available.

b. Suggested special tools/equipment are listed in the upper left corner, on the Aircraft/Entry page of each listed aircraft.

c. Procedural steps covering emergency/normal entrances, cut-ins, engine/APU shutdown, safetying ejection/escape systems, and aircrew extraction are outlined on the left side of each page with coordinated illustrations on the right.

d. Illustrations located on right side of pages are coordinated with text by numerals and small letters depicting both paragraph and subparagraph on the page.

e. Each illustration is consistently colored and/or pattern keyed to highlight essential emergency rescue information.

f. Details are pulled directly from the illustration to highlight an area, thus eliminating unnecessary searching for desired information.

UAV GENERAL INFORMATION

The RQ-1 "Predator" is a Medium Altitude Endurance (MEA) Unmanned Aerial Vehicle (UAV). The UAV is used by the Joint Services, but the Navy has decided not to use the UAV from CV/CVN and LHA/LHD class ships. The primary manufacturer is General Atomics, Inc.

The UAV is a mid-wing monoplane with a slender fuselage housing the payload and fuel, a high aspect ratio wing, and inverted-V tails.

The UAV is powered by a four cylinder Rotax engine requiring 100 octane aviation fuel type 110 LL Avgas with a capacity of 405 litres.

The primary function is video reconnaissance accessing battle damage and battlefield chaos for intelligence planners.

The Predator system is composed of three parts: the air vehicle with its associated sensors and communications equipment, the ground control station (GCS), and the product or data dissemination system. One Predator system has four air vehicles with sensors and data links, one GCS, and one Trojan Spirit II SATCOM system. Predator missions do not employ support aircraft.

The sensors include an electro-optic/infrared (EO/IR) Versatron Skyball Model 14 with a zoom lens and a spotter lens, and a Northrop Grumman/Westinghouse 783R234 Tactical Endurance Synthetic Aperture Radar (TESAR). It also carries other payloads such as a laser target designator, weapons and other detection systems.

The UAV has a Ku-band satellite data link to provide over-the-horizon mission capabilities.

The RQ-1 has installed deicing equipment.

The MQ-1 model is also capable of carrying and firing missiles such as the Hellfire missile.



UAV SPECIFICATIONS

RQ-1

Performance:

Altitude	25,000 FT (7,620 M) or less
Range	1200 nautical miles
Cruise Speed	>70 kts
Endurance	>40 hrs
Conventional launch and recovery	approx. 2000 FT (600 M)

Weights:

Weight fully loaded	<2300 LB (1035 KG)
Weight payload	450 LB (202.5 KG)
Payload	450 LB (204 KG)

Electro-optical payloads:

2 colour DLTV television	Variable zoom, 955 mm Spotter
High resolution FLIR	6 field of view, 19 to 560 MM
Synthetic Aperture Radar	all weather surveillance, 1 FT resolution
Optional payloads	Laser target designator and rangefinder, ECM/ESM, moving target indicator, communications relay

Datalinks:

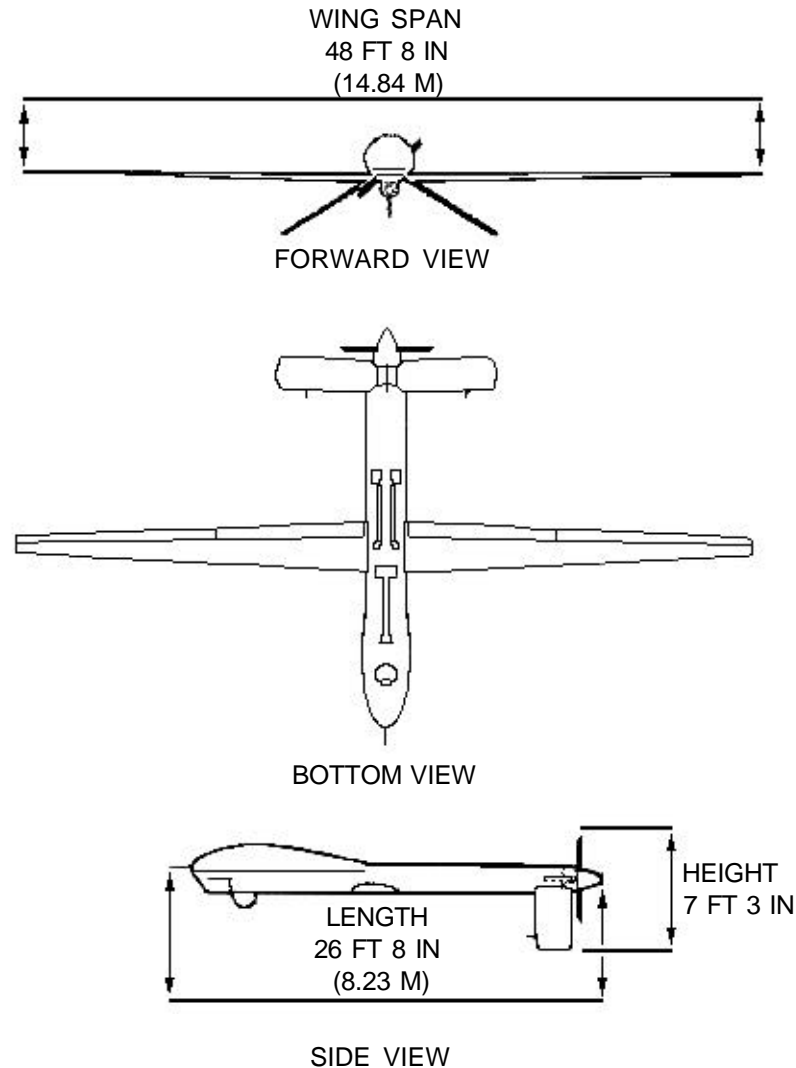
Radio Relay	C-band LOS and Ku Band Satellite
Data distribution system	UHF and VHF radio
	Trojan Spirit II or Global Broadcast System for dissemination

Vehicles:

Ground data	2 HMMWV Transports
Data dissemination	5.5 M dish for Ku-band Ground Data Terminal
	2.4 M dish for data dissemination

Ground Control Station:

Trailer	30 FT x 8 FT x 8 FT (9.14 M x 2.44 M x 2.44 M)
Air transportability	C-130 and C-141 transportable



UAV STRUCTURAL MATERIALS

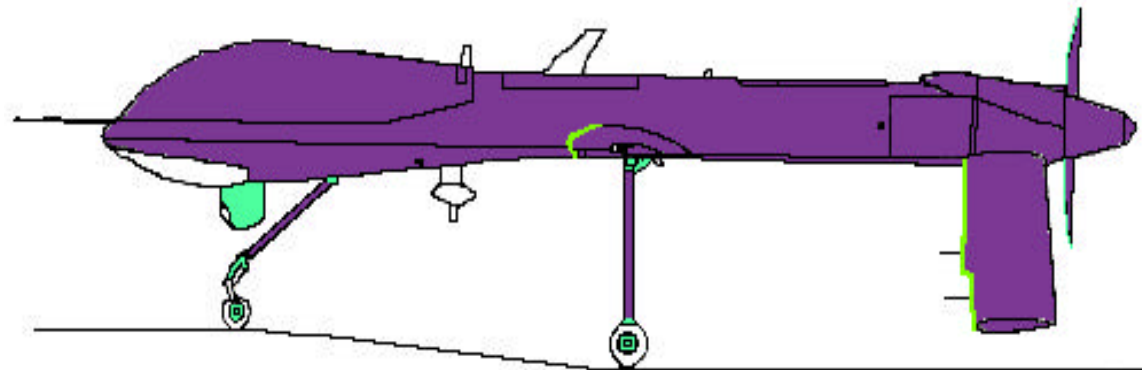
RQ-1

1. STRUCTURAL MATERIALS

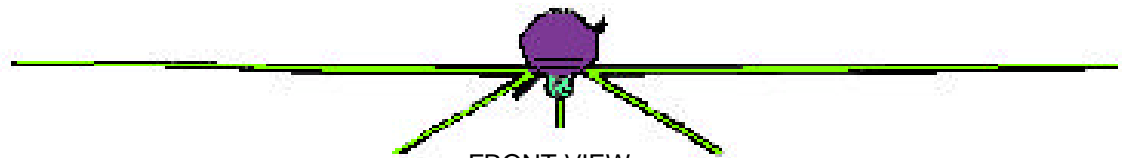
- ALUMINUM/STEEL
- COMPOSITE
- TITANIUM

- a. Composite percentage is 92%. The outer fuselage is made of composite material consisting of carbon fiber and Kevlar, with quartz fiber. The vehicle is mainly a sandwich laminate structure. Core materials are Nomex, foam and wood. Fabric is predominately face layers for the sandwiched laminates. The landing gear is made from carbon fiber fabric layers. Internal support structures are made from carbon fiber unidirectional tape. Fibers are carbon and glass. The general material - carbon and glass fiber foam, Nomex and wood.
- b. The EO/IR Sensor is mostly composed of aluminum and glass. See page RQ-1.5, item 27.
- c. The leading edges of the wings and tails are titanium where microscopic holes weep ethylene glycol deicing fluid.
- d. The internal support structures, on page RQ-1.5, the bulkheads at 6, 7 and 13, are aluminum.
- e. The landing gear legs are composite, with aluminum and steel mechanisms at the top and bottom.
- f. The wheels are aluminum.
- g. The engine is aluminum and steel.
- h. The avionics boxes, inside the fuselage are mostly aluminum, usually housing plastic and copper circuit boards.
- i. The batteries are nickle-cadium.
- j. Fuel cells are made of a rubberized fabric. See page RQ-1.6 items 9 and 10.

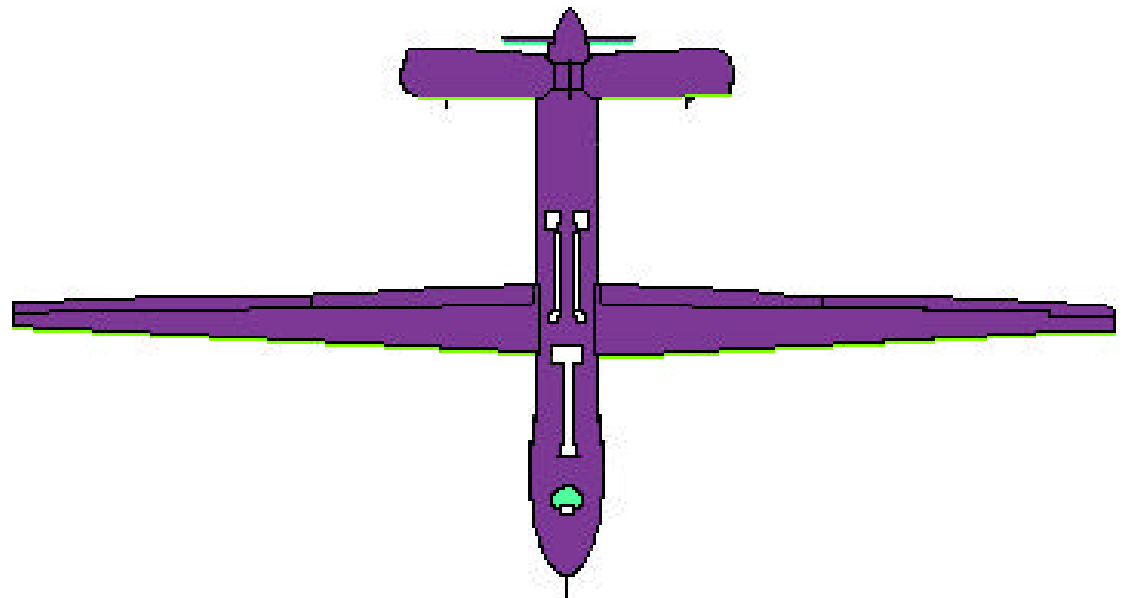
LEFT SIDE VIEW



FRONT VIEW



BOTTOM VIEW



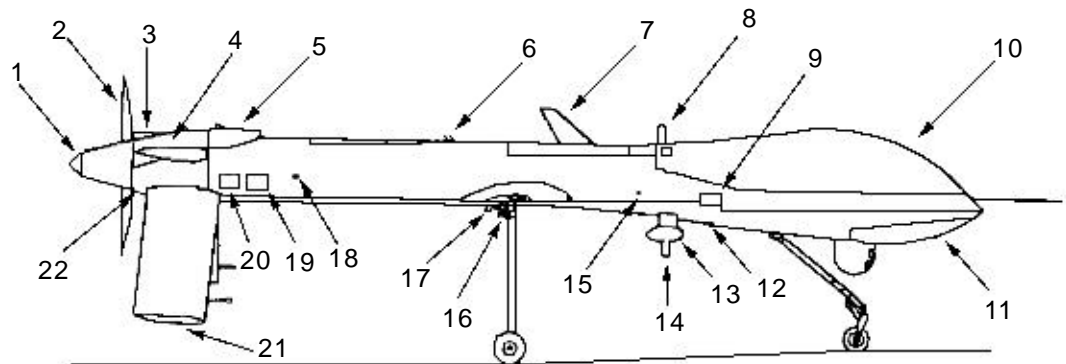
UAV FEATURES

RQ-1

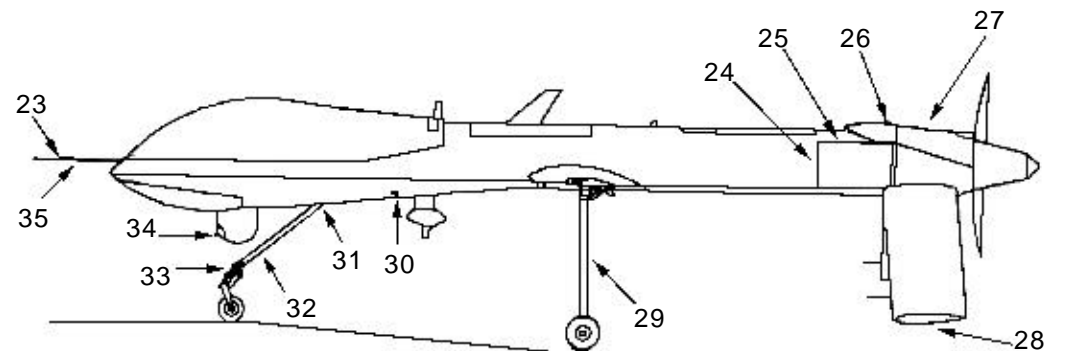
EXTERNAL VIEWS - BOTH SIDES

1. SPINNER ASSEMBLY
2. VARIABLE PITCH PROPELLER ASSEMBLY
3. COWL FLAP
4. AIR INLET TUBE FAIRING
5. COOLING DUCT COVER ASSEMBLY
6. UPPER APX-100 IDENTIFICATION FRIEND OR FOE ANTENNA
7. ULTRA HIGH FREQUENCY/VERY HIGH FREQUENCY ARC210 ANTENNA
8. C-BAND UPPER OMNIDIRECTIONAL ANTENNA
9. GLOBAL POSITIONING SYSTEM TEST PANEL ACCESS
10. KU SATELLITE COMMUNICATIONS RADOME ASSEMBLY
11. SYNTHETIC APERTURE RADAR RADOME/NON-RADIO FREQUENCY COVER
12. FRONT AVIONICS BAY COOLING AIR INLET
13. C-BAND DIRECTIONAL ANTENNA
14. C-BAND LOWER OMNIDIRECTIONAL ANTENNA
15. ENGINE KILL SWITCH
16. MAIN LANDING GEAR RETRACT ASSEMBLY
17. LOWER APX-100 IDENTIFICATION FRIEND OR FOE ANTENNA
18. HEATED STATIC PORT (RIGHT)
19. GROUND POWER PANEL ACCESS
20. NETWORK JUNCTION BOARD PRINTED WIRE ASSEMBLY PANEL
21. RIGHT TAIL ASSEMBLY
22. LOWER ENGINE COWL ASSEMBLY
23. ALPHA PROBE ASSEMBLY
24. HEATED STATIC PORT (LEFT)
25. POWERBAY PANEL
26. RED WARNING STROBE LIGHT
27. UPPER ENGINE COWL ASSEMBLY
28. LEFT TAIL ASSEMBLY
29. MAIN LANDING GEAR
30. FRONT AVIONICS BAY COOLING AIR INLET
31. NOSE LANDING GEAR RETRACT ASSEMBLY
32. NOSE LANDING GEAR
33. NOSE WHEEL AND SHOCK
34. ELECTRO-OPTICAL/INFRARED SENSOR
35. YAW STRING

RIGHT SIDE



LEFT SIDE



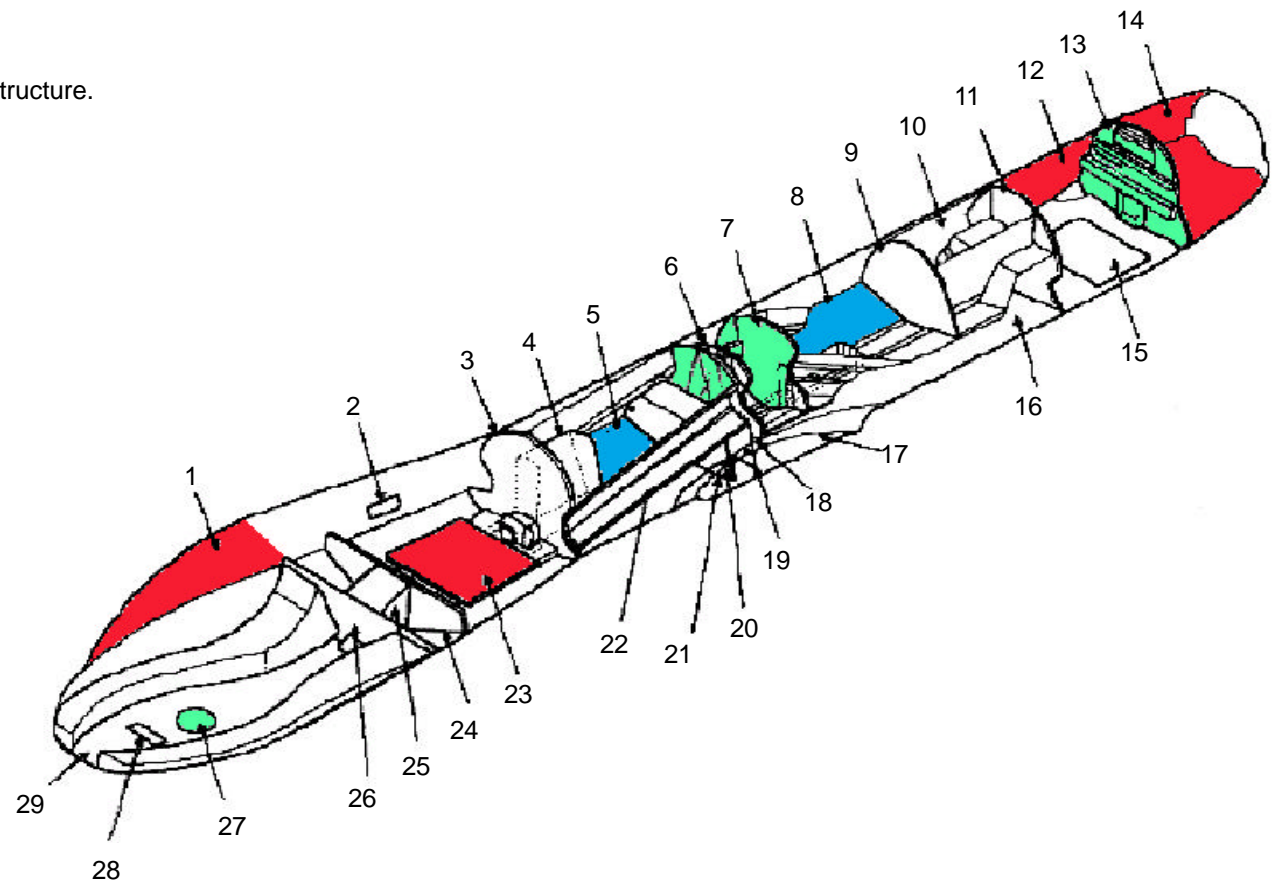
UAV FEATURES-Continued

INTERNAL VIEW

NOTE:

The fuselage is a semimonocoque composite structure.
Bulkhead in the middle support the wings.

1. FRONT AVIONICS BAY
2. GPS TEST PANEL ACCESS
3. BULKHEAD 3
4. NOSE LANDING GEAR BAY
5. FORWARD FUEL CELL BAY
6. BULKHEAD 6 (ALUMINUM)
7. BULKHEAD 7(ALUMINUM)
8. AFT FUEL CELL BAY
9. BULKHEAD 8
10. ACCESSORY BAY
11. BULKHEAD 9
12. POWERBAY
13. BULKHEAD 10 (ALUMINUM)
14. ENGINE BAY
15. AFT EQUIPMENT BAY TRAY
16. MAIN LANDING GEAR BAY
17. WING FILLET
18. MAIN LANDING GEAR ATTACHMENT
19. BULKHEAD 5
20. WING SPAR ATTACHMENT POINTS
21. BULKHEAD 4
22. CABLE CONDUIT
23. FRONT AVIONIC BAY TRAY
24. BULKHEAD 2
25. NOSE LANDING GEAR BAY PROTRUSION
26. BULKHEAD 1
27. OPENING FOR ELECTRO-OPTICAL/ INFRARED SENSOR (ALUMINUM/GLASS)
28. OPENING FOR SAR ANTENNA ASSEMBLY
29. FRONT BAY PAYLOAD TRAY



RQ-1

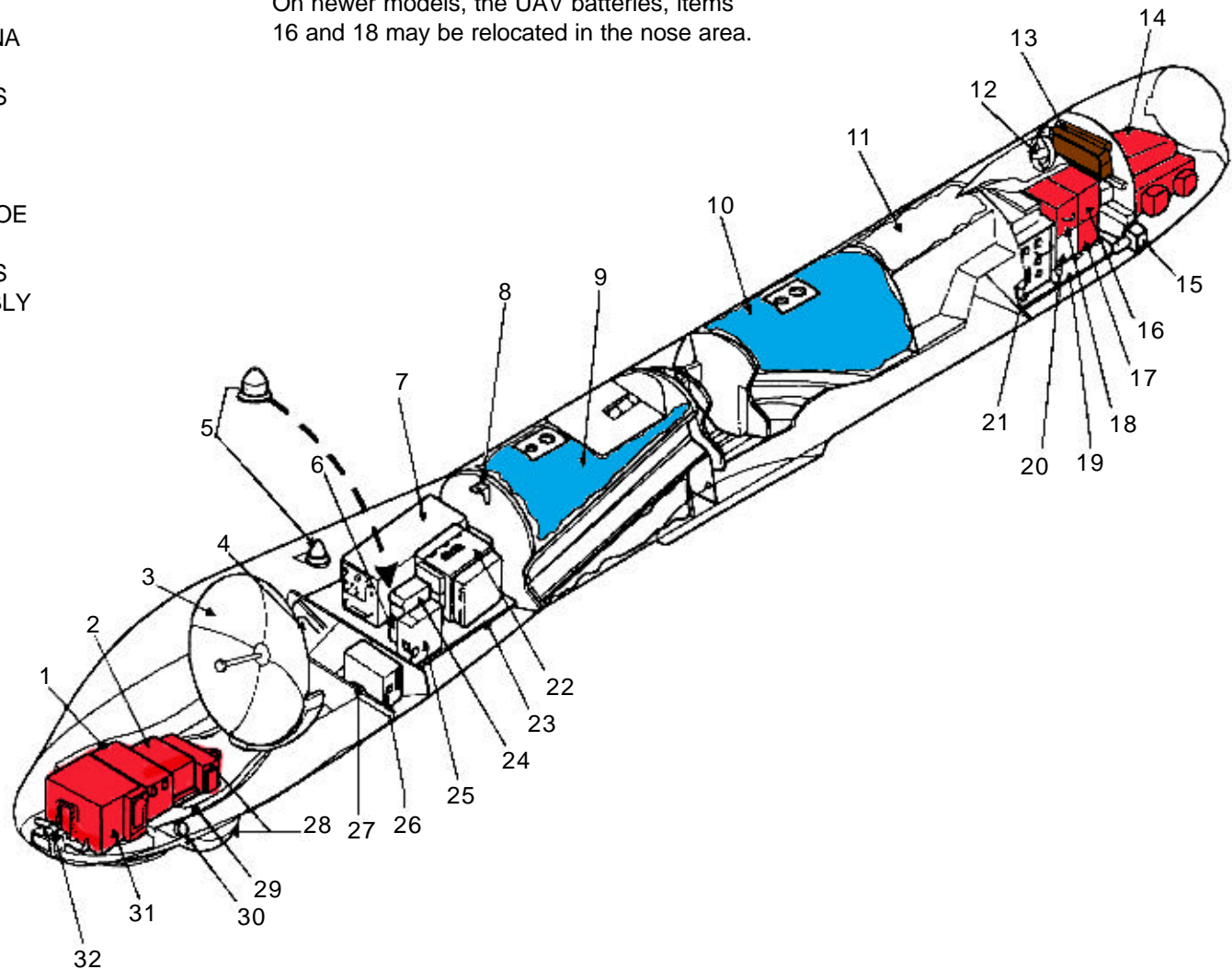
UAV FEATURES-Continued

INTERNAL VIEW - Continued

NOTE:

On newer models, the UAV batteries, items 16 and 18 may be relocated in the nose area.

1. SYNTHETIC APERTURE RADAR ANTENNA
2. INERTIAL NAVIGATION SYSTEM/GPS
3. KU-BAND SATELLITE COMMUNICATIONS ANTENNA
4. VIDEO CASSETTE RECORDER
5. GPS ANTENNAS (LEFT AND RIGHT)
6. APX-100 IDENTIFICATION FRIEND OR FOE TRANSPONDER
7. KU-BAND SATELLITE COMMUNICATIONS SENSOR PROCESSOR MODEM ASSEMBLY
8. C-BAND UPPER OMNIDIRECTIONAL ANTENNA BRACKET
9. FORWARD FUEL CELL ASSEMBLY
10. AFT FUEL CELL ASSEMBLY
11. ACCESSORY BAY
12. ENGINE COOLING FAN
13. OIL COOLER/RADIATOR
14. 914F ENGINE
15. TAIL SERVO (LEFT AND RIGHT)
16. BATTERY ASSEMBLY #2
17. POWER SUPPLY
18. BATTERY ASSEMBLY #1
19. AFT EQUIPMENT BAY TRAY
20. SECONDARY CONTROL MODULE
21. SYNTHETIC APERTURE RADAR PROCESSOR
22. PRIMARY CONTROL MODULE
23. FRONT BAY AVIONICS TRAY
24. ARC-210 RECEIVER/TRANSMITTER
25. FLIGHT SENSOR UNIT
26. VIDEO ENCODER
27. DE-ICE CONTROLLER
28. ELECTRO-OPTICAL/INFRARED SENSOR
29. FRONT BAY PAYLOAD TRAY
30. ICE DETECTOR
31. SYNTHETIC APERTURE RADAR RECEIVER/TRANSMITTER
32. NOSE CAMERA ASSEMBLY



RQ-1

UAV APPROACH, ENGINE AND BATTERY SHUTDOWN

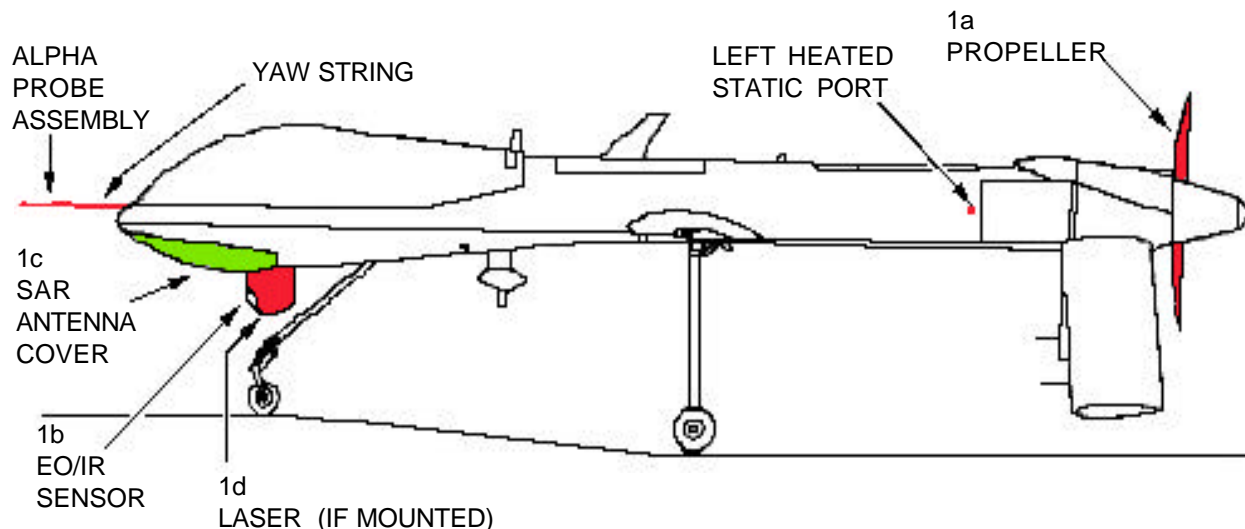
RQ-1

1. UAV APPROACH

NOTE:

Approach can be made from either side.

- Avoid the fuel powered propeller located at the aft section when engine is running.
- The EO/IR sensor has three glass lenses and is located under the nose dome.
- The SAR antenna is located just forward of the EO/IR sensor, behind the chin fairing. The SAR antenna contains Byrellium. (See Chapter 3 hazard specifics and pages RQ-1.5 and 6 for internal view of SAR.)
- A laser may be mounted on the UAV depending on the mission requirements. When mounted, the laser is located on the ball under the nose and the call sign is Star 1, 2, etc. Fire Protection must be informed when the laser is installed on particular UAVs. A non laser UAV is identified with call sign Kodak 1, 2, etc.

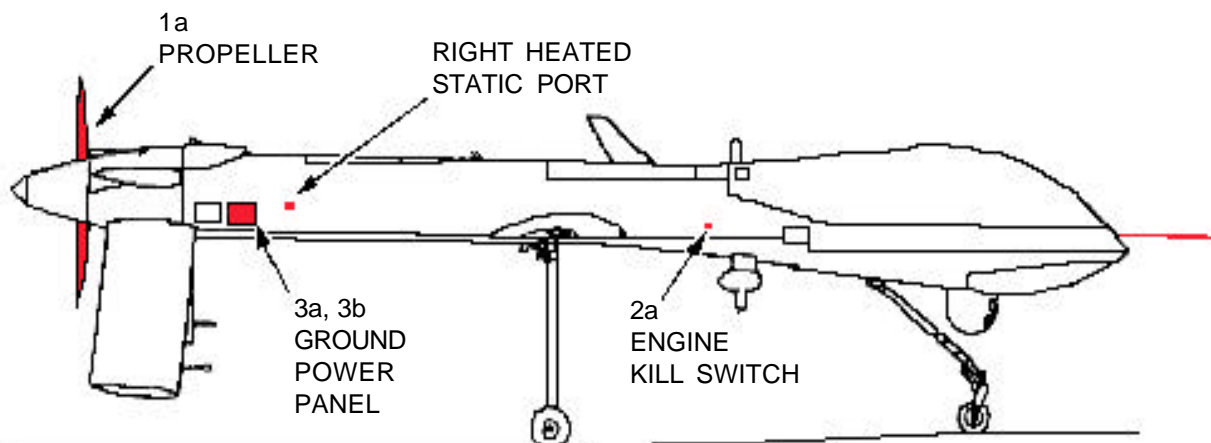


2. ENGINE SHUTDOWN

- Use the engine kill switch, located on the right side forward of right main landing gear to shut the engine down. This is the only method for engine shutdown.

3. BATTERY SHUTDOWN

- The battery switch is located inside aft right side of the fuselage near the tail section behind the ground power panel. The two batteries are nickle-cadium and capable of giving off possible toxic fumes.
- Place the battery switch, inside the ground power panel area, in the OFF position to turn off all power to the UAV.



UAV GENERAL INFORMATION

The Global Hawk system is comprised of the Global Hawk High Altitude Endurance Unmanned Aerial Vehicle (HAE UAV) and a Common Ground Station (CGS). The primary mission is to provide overt, continuous, long endurance, all weather, day/night wide area reconnaissance and surveillance.

The aerial vehicle is a conventional design, high-aspect ratio, low wing, tricycle landing gear UAV powered by a single Allison AE3007H turbofan engine. It is capable of carry Electro-Optical (EO), infrared (IR), and Synthetic Aperture Radar (SAR) payloads simultaneously.

The CGS (not illustrated) is made up of two independent mobile, self-sustained van complexes; a Launch and Recovery Element (LRE) and a Mission Control Element (MCE).

Actual zero fuel weight varies based on kits installed in the UAV.

FUEL TANK CAPACITY: 2270 GALS (15,436 LBS)

ZERO FUEL WEIGHT: 11,300 to 12,250 LBS

WARNING

When approaching the aircraft, ground and emergency response personnel should be aware of UAV hazards, such as hot brakes, running engine, antenna radiation and leaking fluids that may be flammable.

RQ-4A

UAV DIMENSIONS AND CLEARANCES

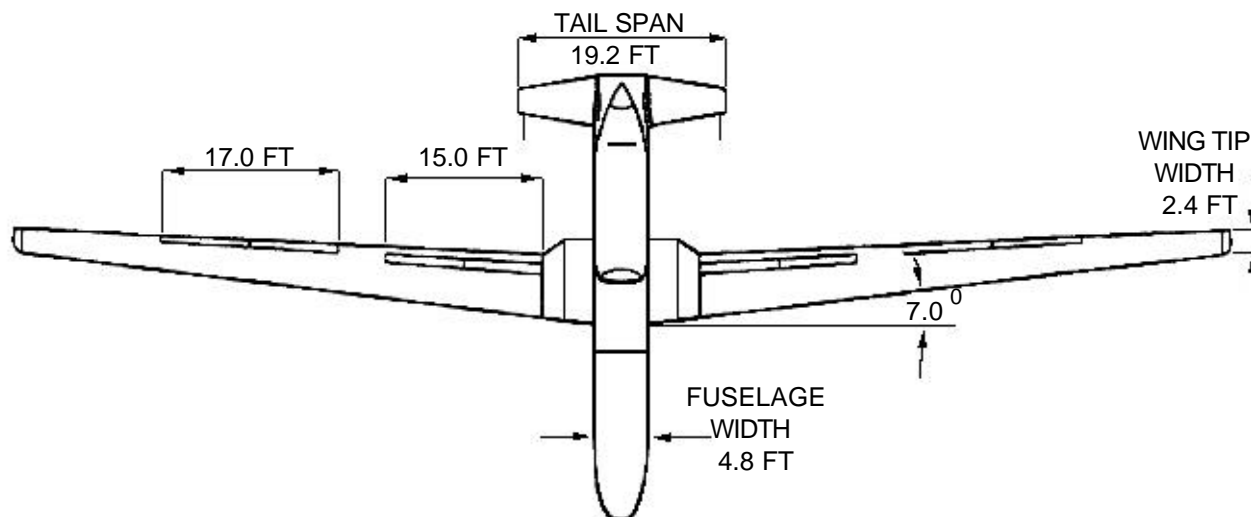
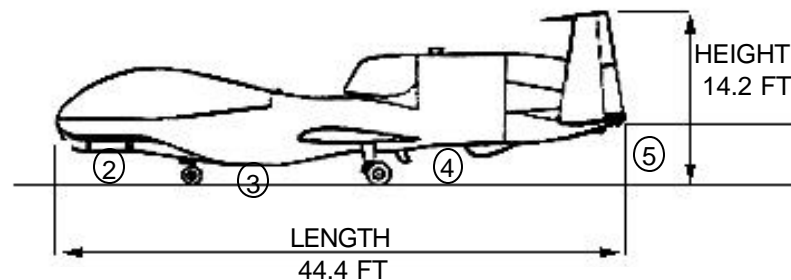
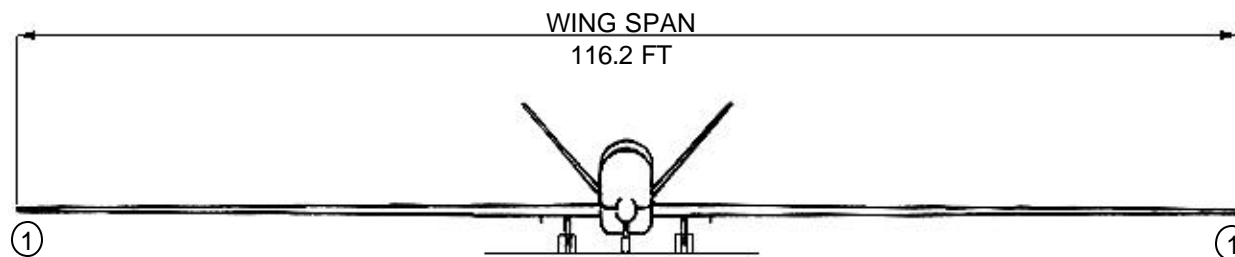
RQ-4A

DIMENSIONS AND CLEARANCES

NOTE:

Clearances are based on normal operating conditions with maximum gross weight fuel load. Tires are inflated to proper pressures. Struts are properly serviced and fully compressed due to the fuel load. Wing tip clearance shown at maximum deflection during tow (1.6G).

1. WING TIP: 26.0 INCHES
2. EO/IR PANEL: 33.5 INCHES
3. SAR RADOME: 19.5 INCHES
4. CDL RADOME: 27.5 INCHES
5. TAIL LIGHT COVER: 66.5 INCHES



UAV HAZARDOUS MATERIALS

RQ-4A

HAZARDOUS MATERIALS LOCATIONS

FUEL: JP-8, 930 GALS - MAIN TANK
1215 GALS - WING TANKS

ENGINE OIL: MIL-L-7606
HYDRAULIC FLUID: MIL-L-5808
HYD ACCUMULATOR (1)
2000 PSI - 2 GALS

EO/IR LENS WITH THORIUM COATING

NICAD BATTERY(3) 28 VOLT (STAINLESS STEEL BOXED)

NITROGEN BOTTLES (3)

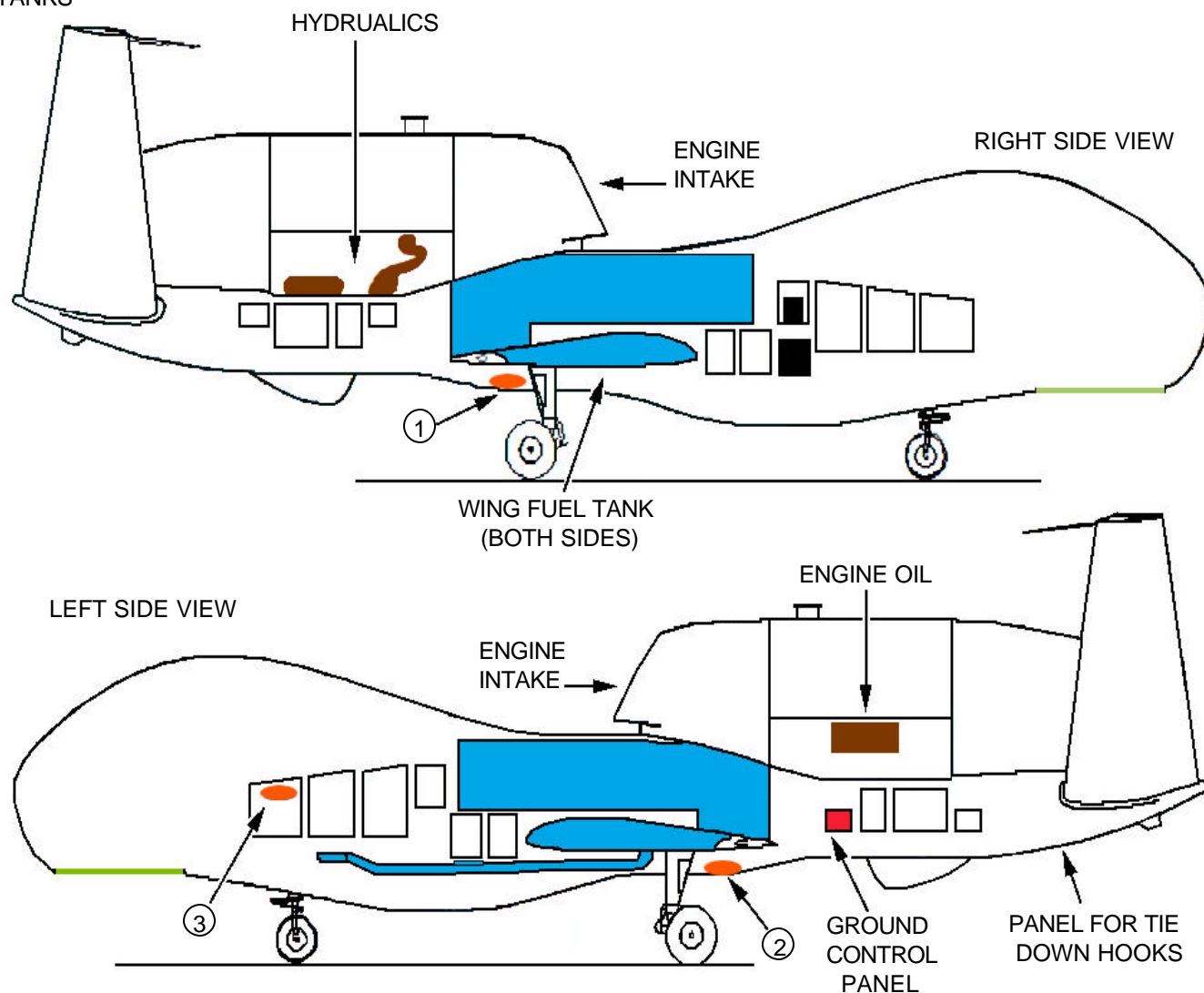
NOTE:

All 3 nitrogen bottles at 3000 PSI

1. Emergency gear blowdown (right side MLG)
2. Emergency brake (left side MLG)
3. Ku SATCOM waveguide pressurization (forward left side equipment compartment)

Tire pressures:

Nose Wheel 93 PSI
Main Wheels 193 PSI



UAV STRUCTURAL COMPOSITION

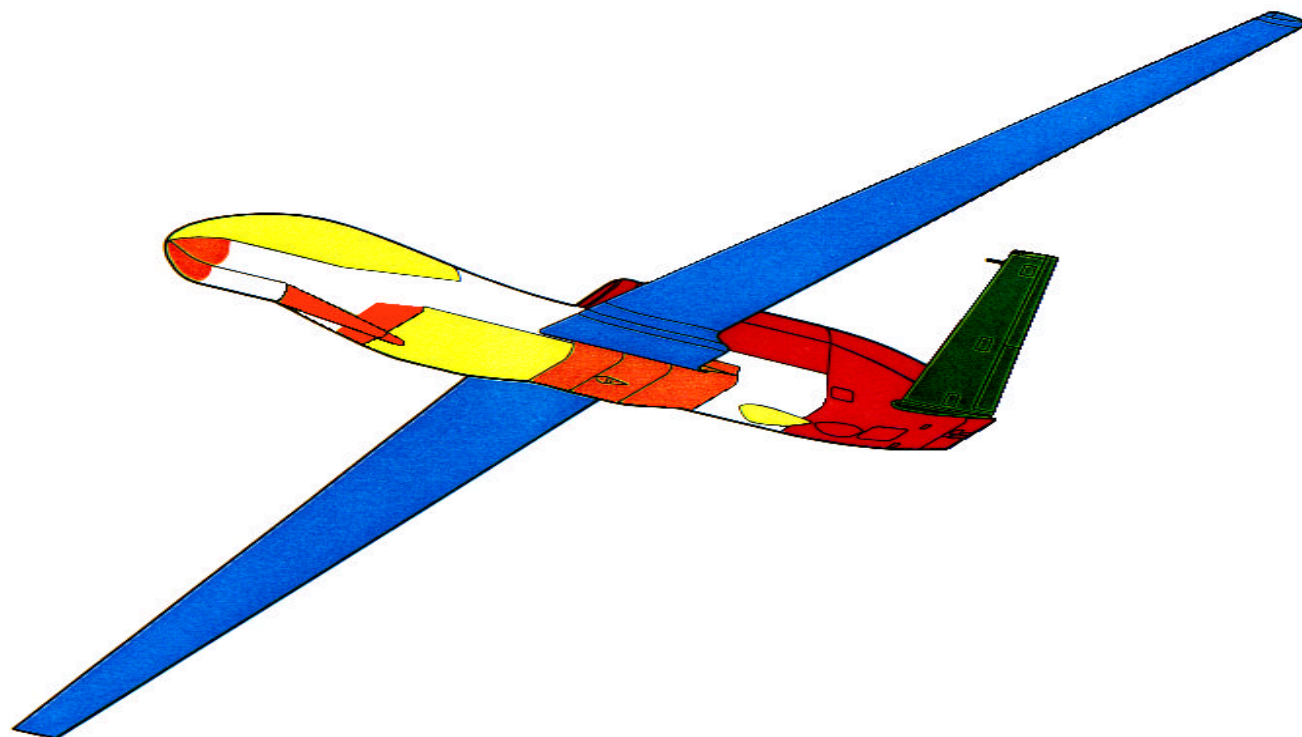
RQ-4A

STRUCTURAL KEY

	WINGS
	RADOMES
	V-TAIL
	AFT FUSELAGE AND NACELLE
	FAIRINGS AND LANDING GEAR DOORS

NOTE:

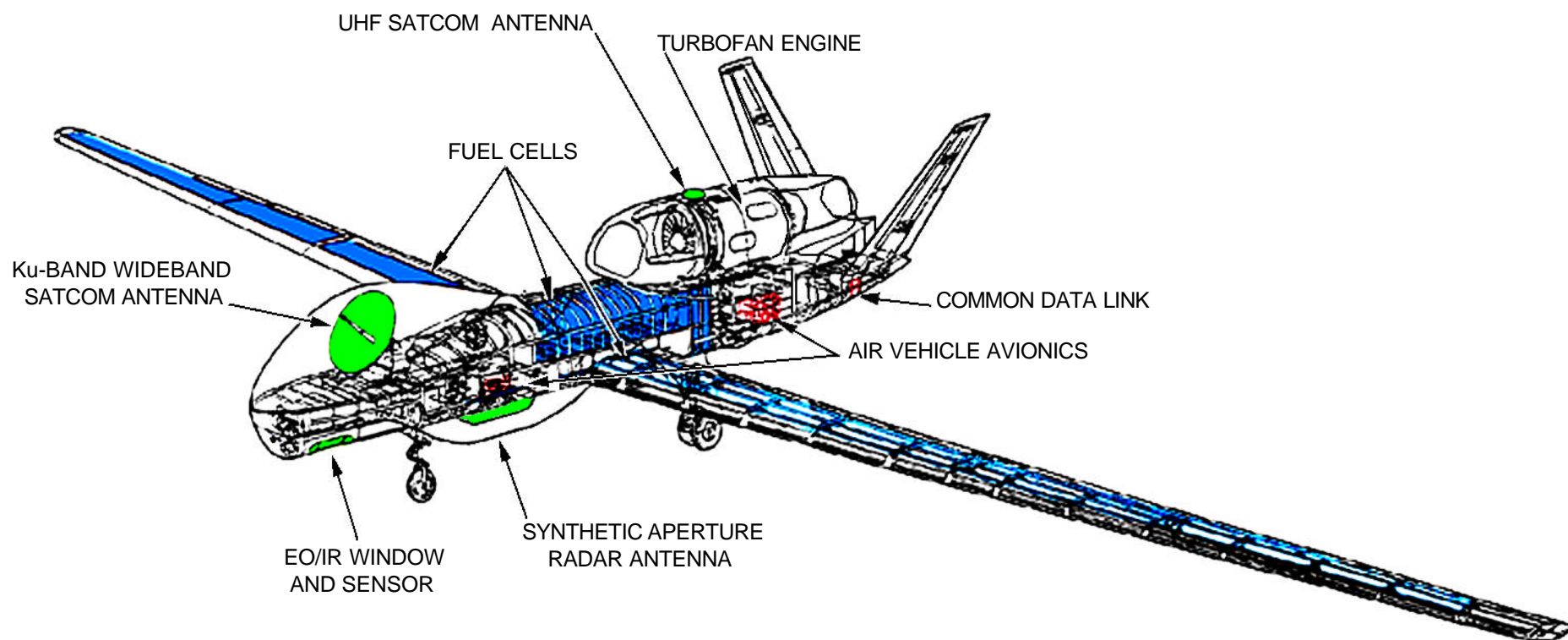
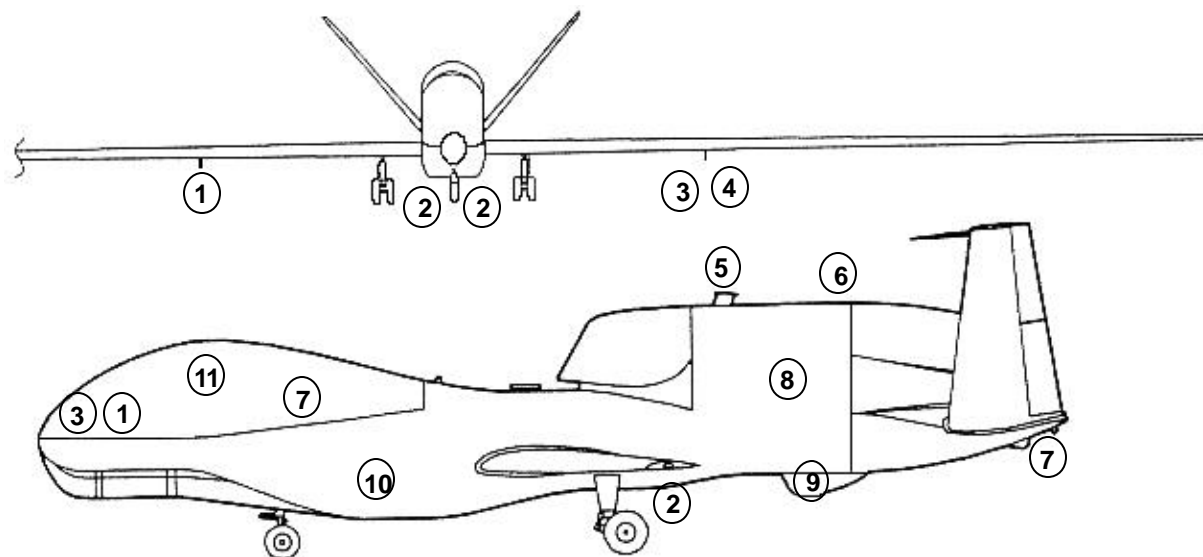
All external surfaces are made of graphite composite material. These materials are not considered exotic or advanced, but rather fiberglass. The wings, radomes, and cowlings are made of graphite epoxy. The engine is encased in kevlar for heat and fire protection. Gel coats are not used.- Thermoset resin is used. These materials are used in the manufacture of the major composite structures (wing, engine, nacelle, v-tail, etc.).



UAV DANGER AREAS

MULTIPLE ANTENNA LOCATIONS

1. UHF LOS C² and Voice Receiver
2. Radio Altimeters
3. UHF LOS C² Transmitter
4. VHF Voice
5. UHF SATCOM
6. GPS
7. IFF
8. Differential GPS
9. CDL
10. SAR
11. Ku SATCOM



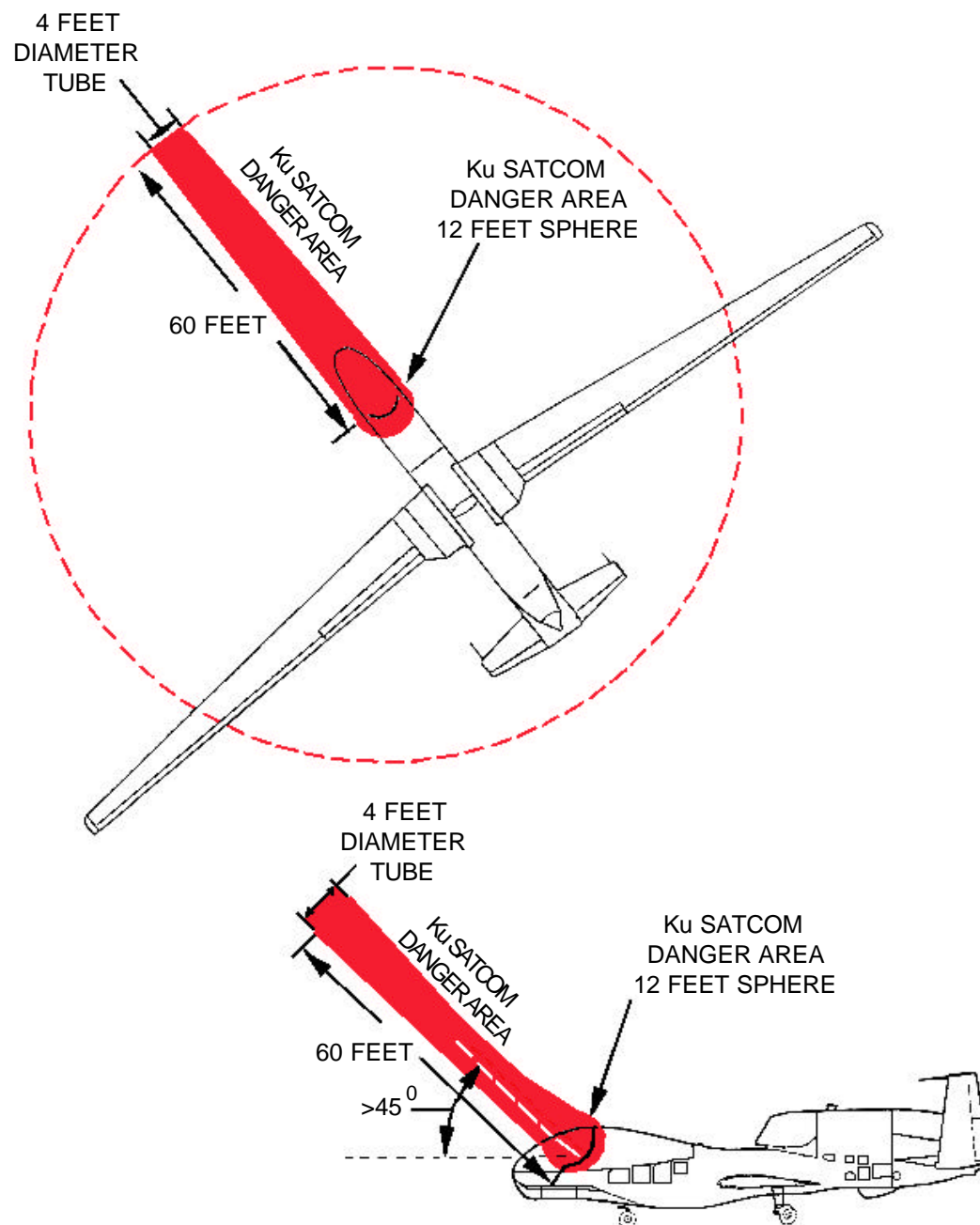
RQ-4A

UAV DANGER AREAS-Continued

Ku SATCOM ANTENNA RADIATION AREAS

NOTE:

Dashed lines indicate Ku SATCOM antenna range of motion/radiation potential.

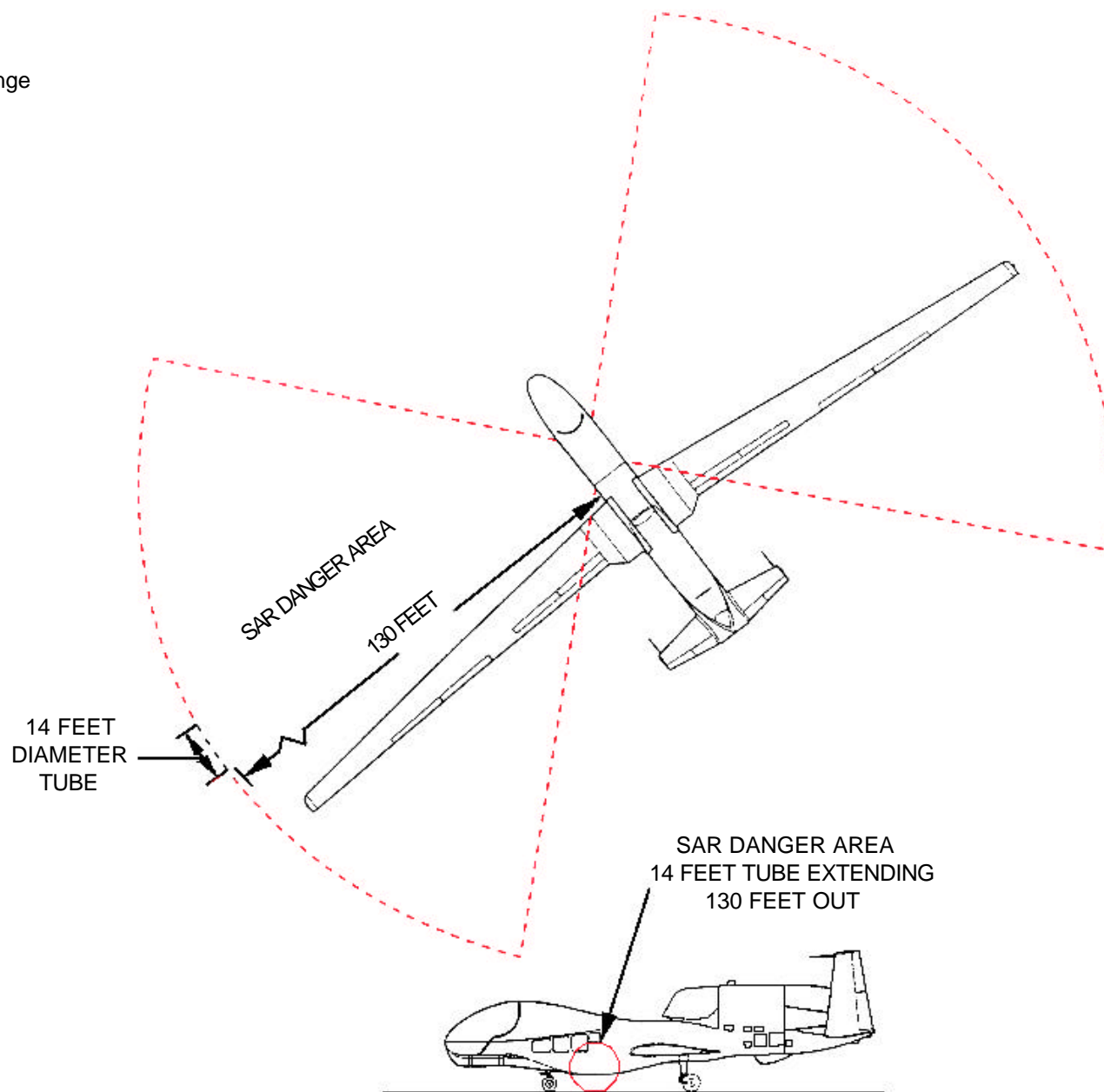
**RQ-4A**

UAV DANGER AREAS-Continued

SAR ANTENNA RADIATION AREAS

NOTE:

Dashed lines indicate SAR antenna range of motion/radiation potential.

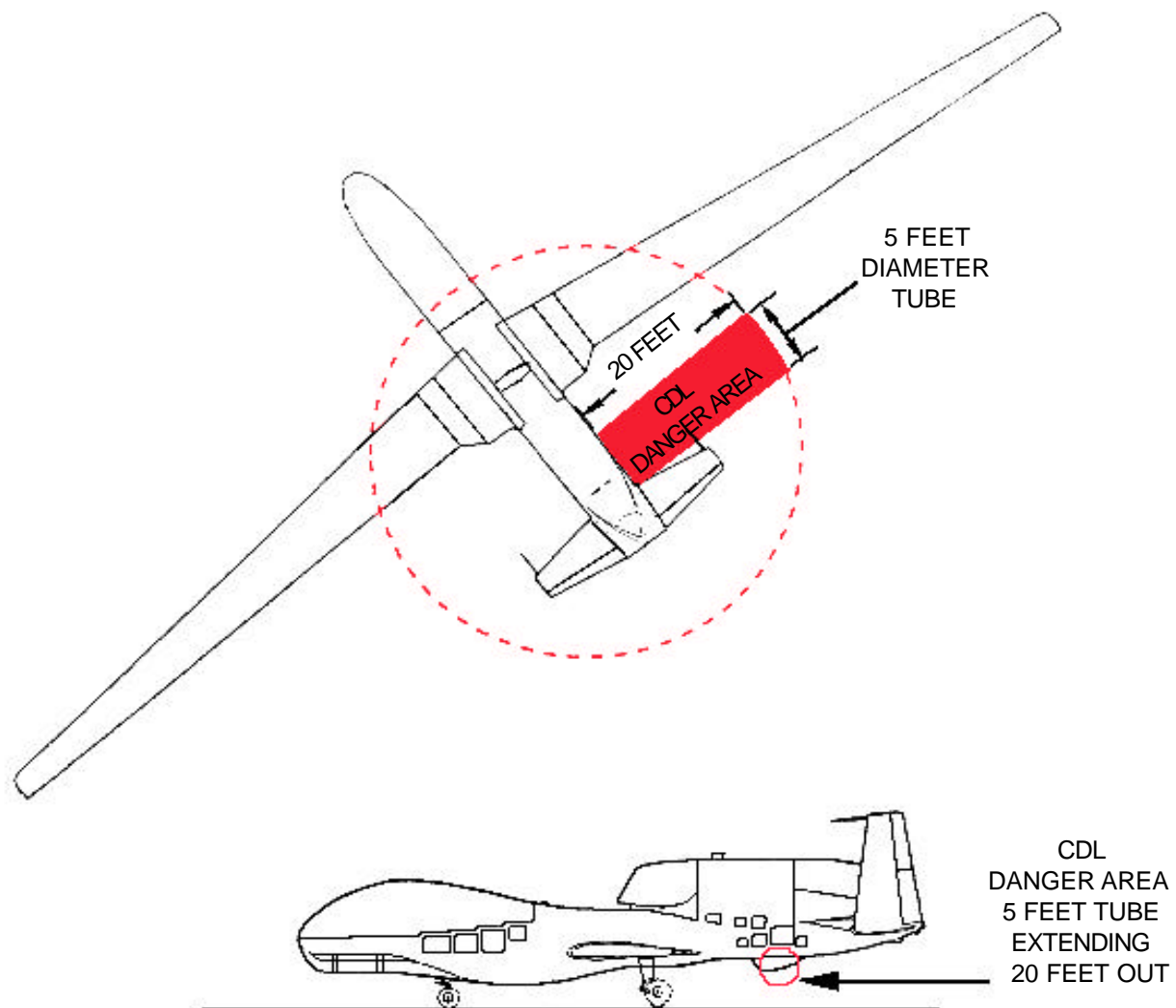
**RQ-4A**

UAV DANGER AREAS-Continued

CDL ANTENNA RADIATION AREAS

NOTE:

Dashed lines indicate CDL antenna range of motion/radiation potential.

RQ-4A

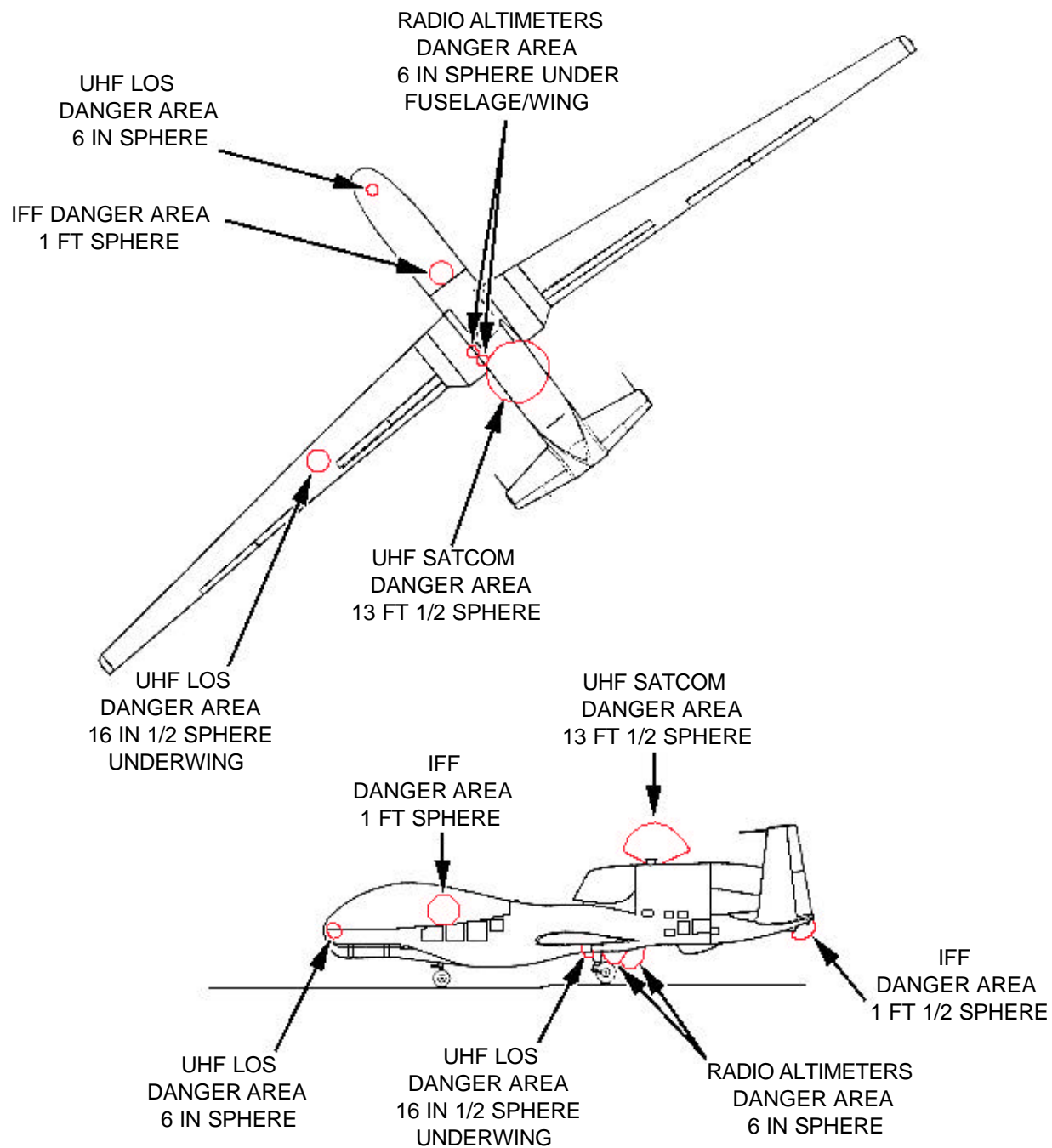
UAV DANGER AREAS-Continued

FIXED ANTENNA RADIATION AREAS

NOTE:

Radiation areas for fixed antenna varies in size.

RQ-4A



UAV DANGER AREAS-Continued

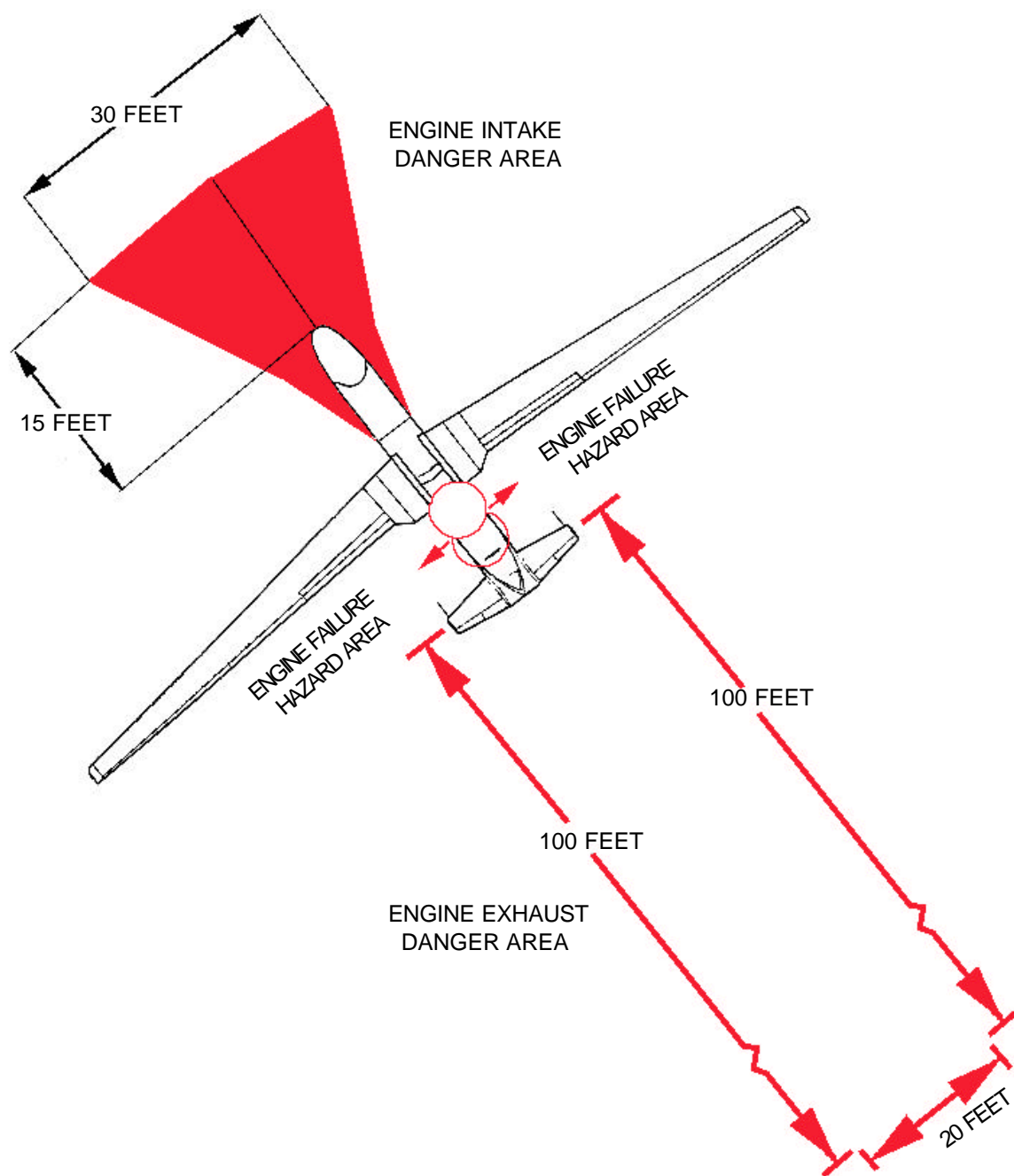
ENGINE INTAKE, EXHAUST AND FAILURE AREAS

WARNING

Clear all equipment and personnel from the aft of the aircraft (100 feet back and 20 feet wide). This area subject to the heat and exhaust air velocity produced by the engine.

NOTE:

These danger areas exist during normal operations, engine runs and taxiing procedures.



RQ-4A

EMERGENCY ENGINE SHUTDOWN

RQ-4A

1. EMERGENCY ENGINE SHUTDOWN

NOTE:

Items in capitalization denote the designations on the ground control panel (GCP).

- a. Install ground safety pin prior to engine shutdown, if time permits.

NOTE:

The installed pin safes all radiation ICS, ISS (dangerous RF emissions), all EEDs (electro-explosive devices), all EOD items, disables landing gear retraction, inhibits commands for taxi and brake release and inhibits engine RPM greater than 70%.

- b. Move the EMER STOP switch, located on the GCP, up.

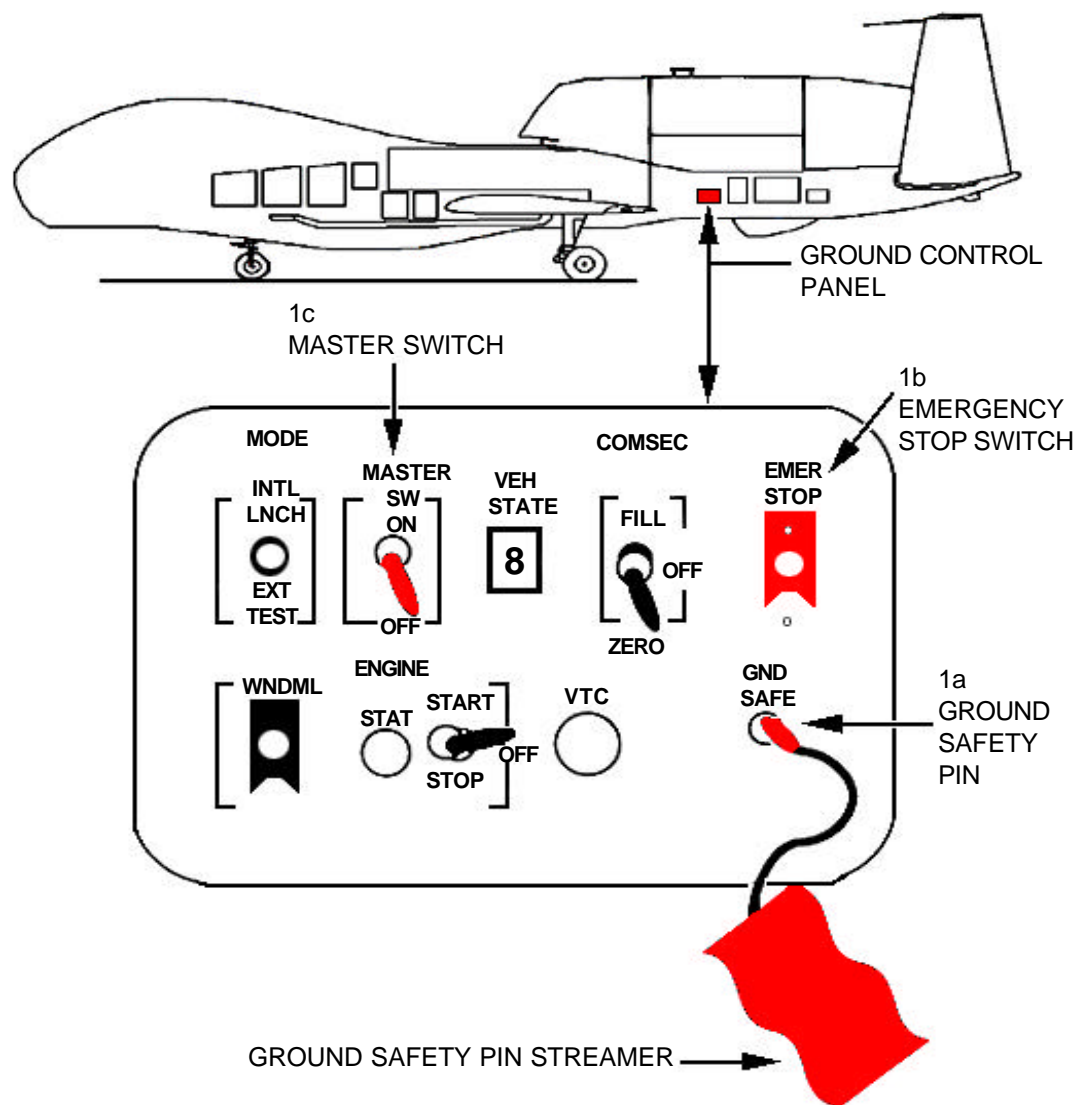
CAUTION

Brakes will release when engine is shutdown. Place wheel chocks at front and rear of MLG tires.

- c. Move the MASTER SW to the OFF position.

NOTE:

This will remove all power from the UAV, closes the main fuel shut off valve, shuts down engine, releases brakes and logs event in IMMC fault log.



UAV RECOVERY

1. DIVERT PROCEDURES

NOTE:

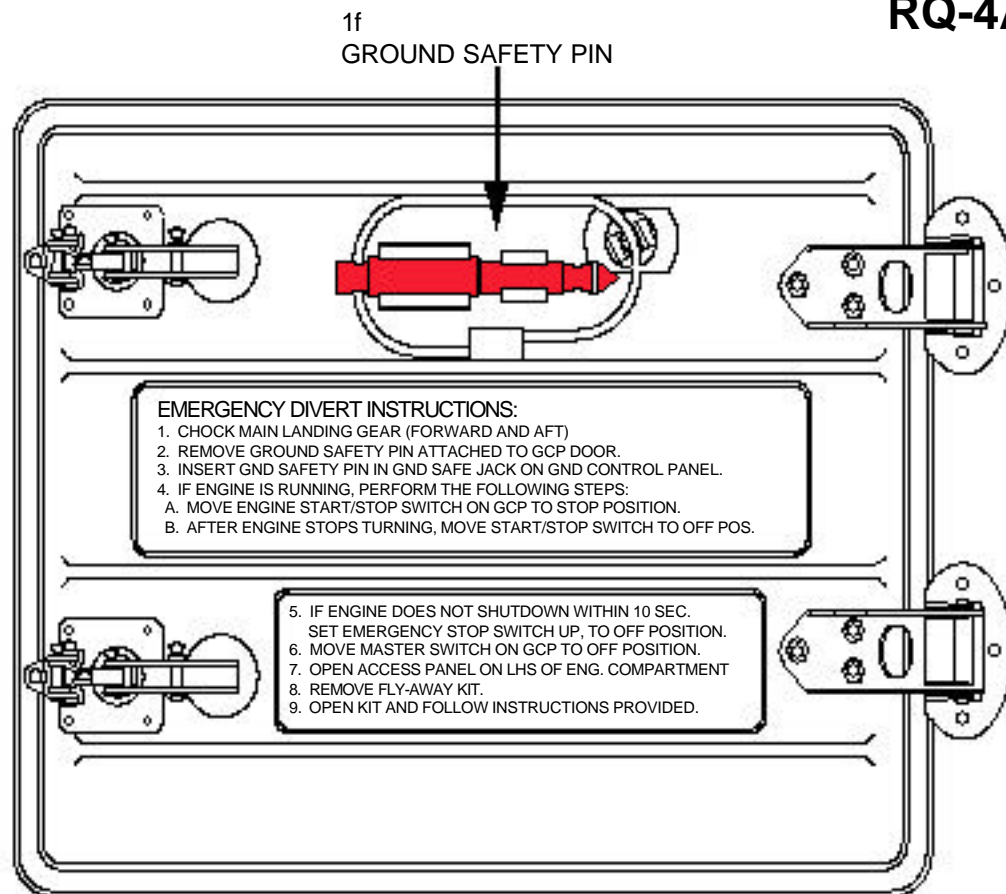
The following procedures and information are intended for crews designated with the assigned responsibilities.

- a. These procedures secures a Global Hawk that has landed and has stopped on the runway.

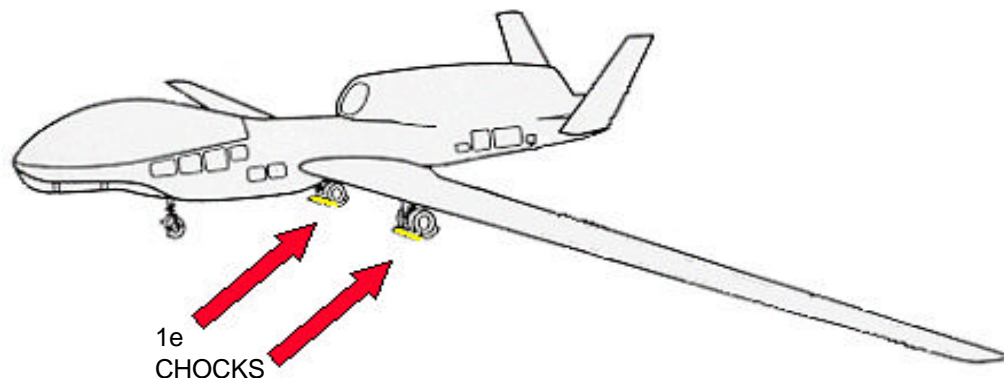
WARNING

- There is no visual camera for the UAV operator. Maintain radio contact with the airfield control tower and the Command and Control Operator (CCO).
 - The UAV has several cryptographically keyed systems that may be classified SECRET. Contact the CCO to verify the level of classification.
 - Follow the standard procedures for potentially hot brakes. Do not enter wheel area from sides.
- b. Note the danger zones described in Figures 1 through 3. Communicate with CCO to determine which antennas are operating. Minimize exposure time within Danger Zones.
- c. Ground personnel will visually inspect the aircraft for hazards, such as hot brakes and leaking fluid.
- d. If not previously completed, open the Ground Control Panel (GCP) on the aft left-hand side of the aircraft.
- e. If not previously completed, follow all the steps on the Divert Instruction placard. Install chocks in proper locations. Refer to next page for Fly-Away Kit location and contents.
- f. Verify the Ground Safety Pin is in the GND SAFE jack and the engine has shutdown. Notify the CCO the Ground Safety Pin is inserted and the engine has shutdown.

RQ-4A



1e
DIVERT INSTRUCTIONS PANEL



UAV RECOVERY - Continued

RQ-4A

1. DIVERT PROCEDURES - CONTINUED

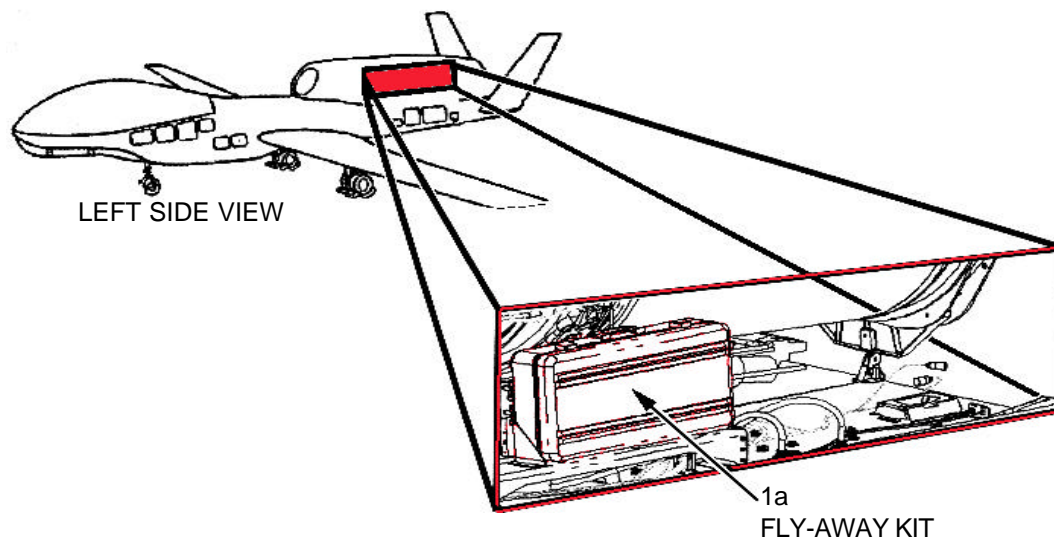
NOTE:

The Ground Safe Pin performs the following functions:

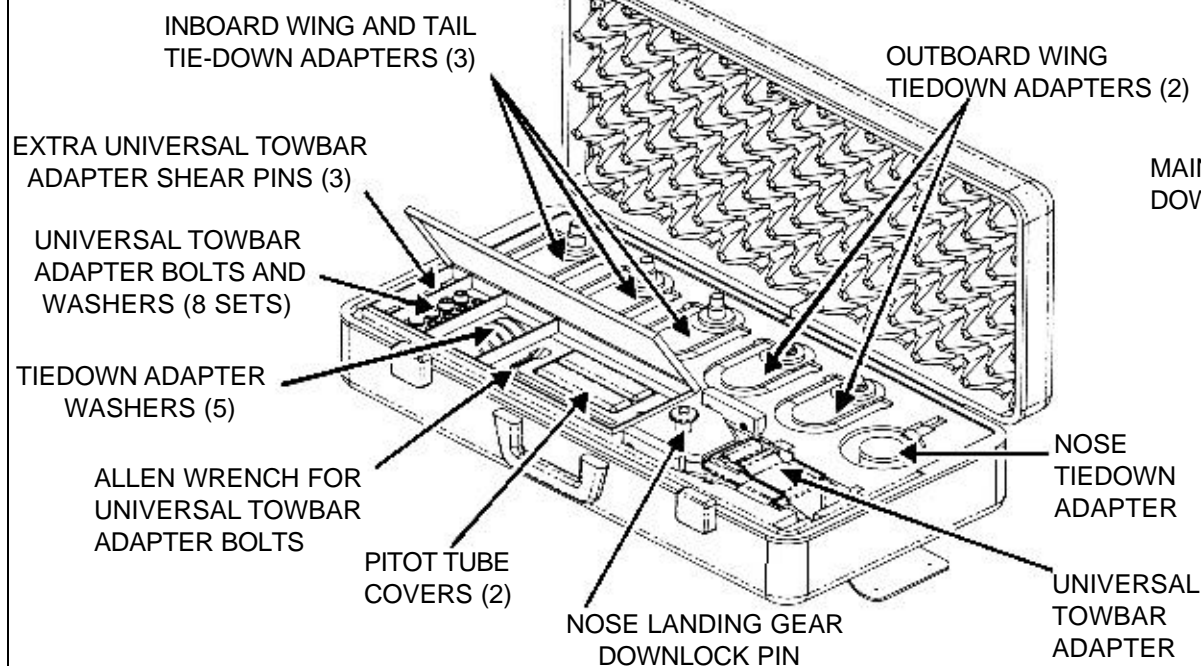
- (1) Inhibits dangerous RF emissions.
- (2) Disables landing gear retraction.
- (3) Inhibits commands for taxi and brake release.
- (4) Safes all Explosive Ordnance Devices (EOD).

- g. If not previously completed, open the left-hand side engine compartment access panel and locate the Fly-Away Kit . Remove the four mounting bolts that secure the Fly-Away Kit . Use a 7/16 inch wrench or socket to remove the mounting bolts.

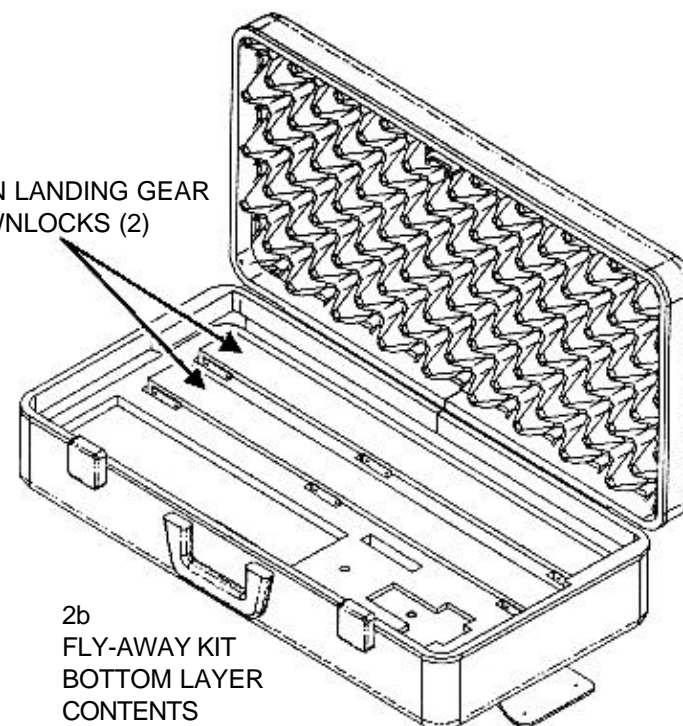
- h. See Fly-Away Kit layout and contents.



2a
FLY-AWAY KIT
TOP LAYER CONTENTS



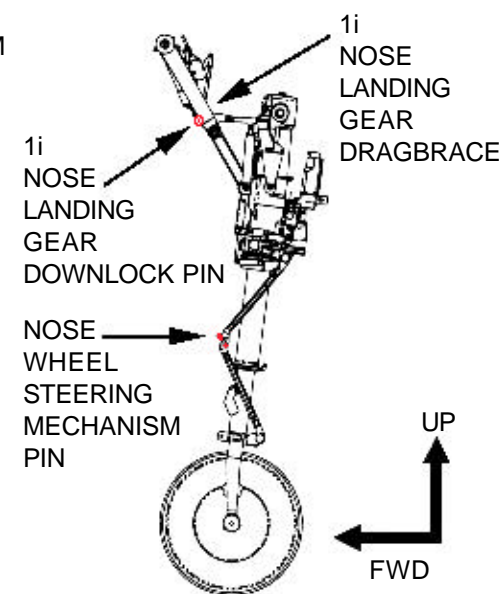
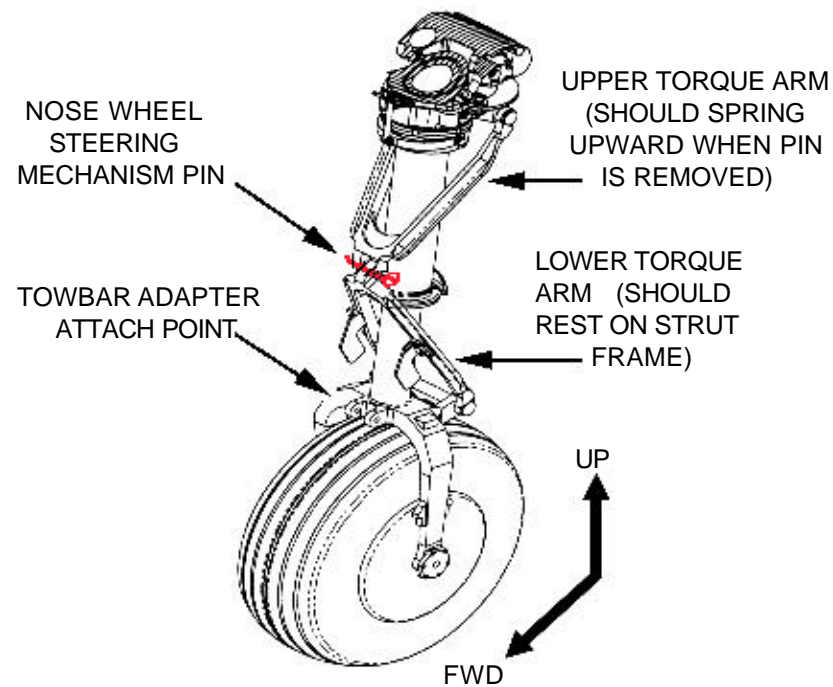
MAIN LANDING GEAR
DOWNLOCKS (2)



UAV RECOVERY - Continued

1. DIVERT PROCEDURES - CONTINUED

- i. Insert the Nose Landing Gear Downlock Pin in the hole provided on the NLG dragbrace.
- j. Install the Main Landing Gear Downlocks on the chrome of the MLG retract actuators.



1j
MAIN LANDING
GEAR DOWNLOCK



RQ-4A

UAV RECOVERY - Continued

RQ-4A

1. DIVERT PROCEDURES - CONTINUED

- k. Verify the Master Switch, located on the GCP, is in the OFF position.
- l. Move the COMSEC Switch, located on the GCP, to the ZERO position then to the OFF position.
- m. Close Ground Control Panel (GCP) door.
- n. Tow aircraft to a hangar or a safe location.

WARNING

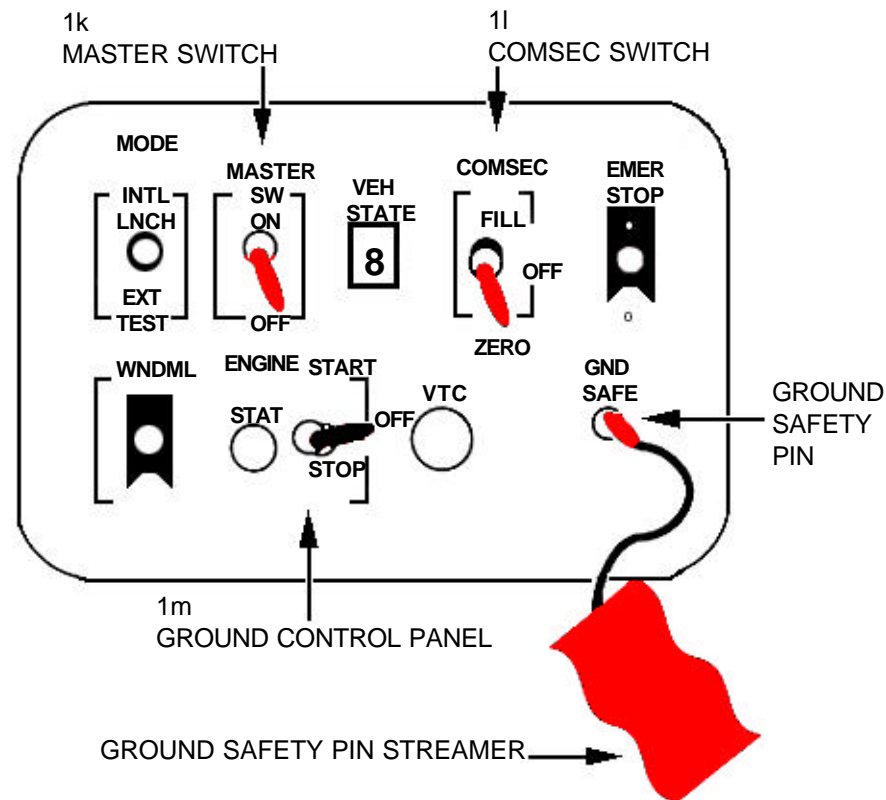
Failure to follow the safety precautions while towing the aircraft with personnel sitting on the outer wing section may result in injury or death to the personnel.

- (1) If the aircraft has landing in an unbalanced configuration (one wing heavier than the other), up to four personnel may sit on outer section of the high wing to balance the wings during towing in adverse or emergency conditions.

CAUTION

Torque arm attach pin must be removed and torque arms separated before towing. If torque arms are not separated before towing, the Nose Landing Gear could be damaged during towing.

- (2) Disconnect the Nose Wheel Steering Mechanism. See previous page.
 - (a) While pushing in the ball-lock button on the end of torque arm attach pin, remove the cap and the pin from the torque arms.
 - (b) Be sure the upper torque arm raises to the full up position (upper torque arm should spring up) and the lower torque arm rests on the strut frame.
 - (c) Stow the pin in upper torque arm.



UAV RECOVERY - Continued

RQ-4A

1. DIVERT PROCEDURES - CONTINUED

- n.(3) Install the Universal Towbar Adapter on the Towbar. If an F-5 or T-38 aircraft towbar is used the Universal Towbar Adapter is not required.
- (a) Turn the handle on the Towbar until the Universal Towbar Adapter fits snugly between the forks.
- (b) Secure the Universal Towbar Adapter to the Towbar with eight bolts, washers supplied in the Fly-Away Kit. Use the Allen Wrench supplied with the Fly-Away Kit to tighten the bolts. If a Torque Wrench with Allen Wrench adapters is available, torque the bolts to 95-105 inch-pounds above the prevailing torque. The prevailing torque should be between 10-80 inch pounds.

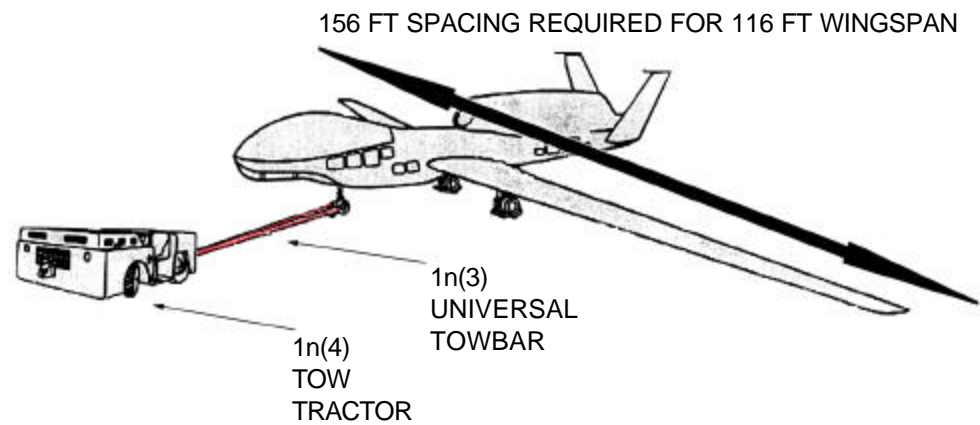
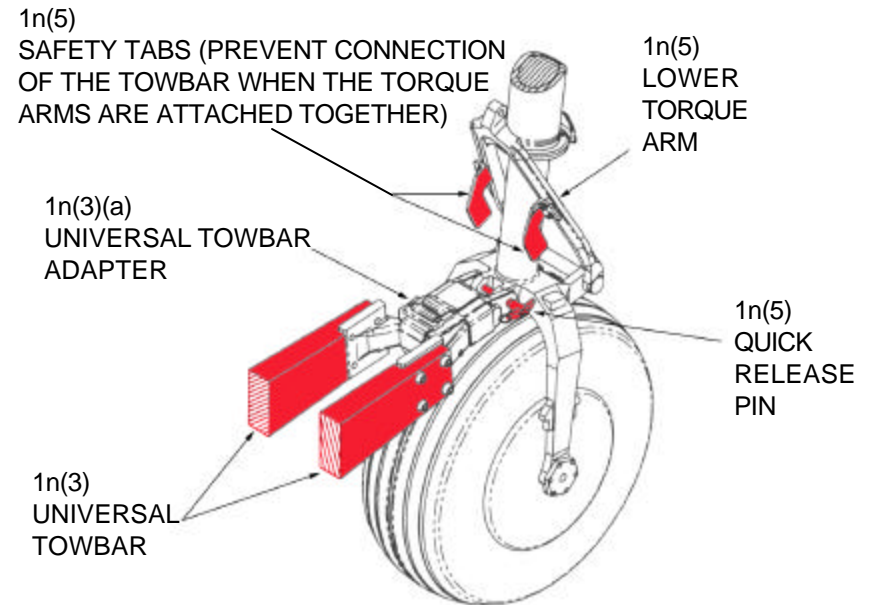
NOTE:

Personnel performing this function must be familiar with safety precautions reflected in AFOSH STD 91-100.

- (4) Request the tow tractor driver to move the Tow Tractor into position.
- (5) Raise Lower Torque Arm upward. This will allow clearance to engage the Towbar Adapter/Towbar below the Safety Tabs. With the Lower Torque Arm raised, position the Towbar Adapter/Towbar on the Nose Landing Gear Strut and insert the quick release pin through the Nose Wheel Attach Point and the Towbar Adapter/Towbar.
- (6) Rest the Lower Torque Arm on the strut frame to prevent interference with the Nose Landing Gear Doors.
- (7) Attach the other end of the Towbar Adapter/Towbar to the Tow Tractor hitch.

NOTE:

Whenever towing in areas with less than 20 feet of wing tip clearance on both sides (total of 156 feet space between obstructions), wing walkers should be used on both wing tips. A tail walker is required for backing the UAV.



UAV RECOVERY - Continued

1. DIVERT PROCEDURES - CONTINUED

n.(8) If required, assign the wing walkers to the wing tips to help guide and balance the UAV. Note the illustrated large wing span.

(9) Assign one tow observer to ride on the Tow Tractor.

(10) Verify the brakes are off by physically moving the brake disk.

(11) The tow observer will request the wing walker assistants to remove the wheel chocks from the Main Landing Gear.

CAUTION

- Have the aircraft in motion before starting a turn.
- When a tow vehicle with automatic transmission is used, tow in the low range.
- Avoid sudden starts and stops. Failure to do so may result in shearing towbar pin.
- Whenever the UAV is towed, a wing walker should have a set of chocks to stop the UAV should the shear pin fail.
- If the shear pin fails, additional shear pins can be found in the Fly-Away Kit.
- Do not exceed 5 MPH while towing the UAV.
- The Nose Wheel must not be turned greater than 30 degrees while towing the UAV. Damage to the Nose Landing Gear Doors may occur if the 30 degree limit is exceeded.
- Before towing the UAV, ensure the winds in the area do not exceed 30 knots. Do not tow the UAV if the winds are in excess of 30 knots.

UAV RECOVERY - Continued

RQ-4A

1. DIVERT PROCEDURES - CONTINUED

CAUTION

Uneven pavement may cause wing to contact ground.
156 feet of spacing is required for a 116 foot wing span.

- (12) Move the UAV to the designated area.
 - (13) Once UAV has cleared the runway, call airfield control tower and inform them the UAV is clear of the runway.
 - (14) At the destination, the observer will request the wing walkers to place the wheel chocks in front and back of both Main Landing Gear Wheels. (See next page.)
 - (15) If one wing is heavier than the other and will dip to the ground, place foam or other material under the wingtip to protect the wing.
- o. If the UAV is going to be parked outside for an extended period of time, cover the engine inlet and exhaust with clean tarps.

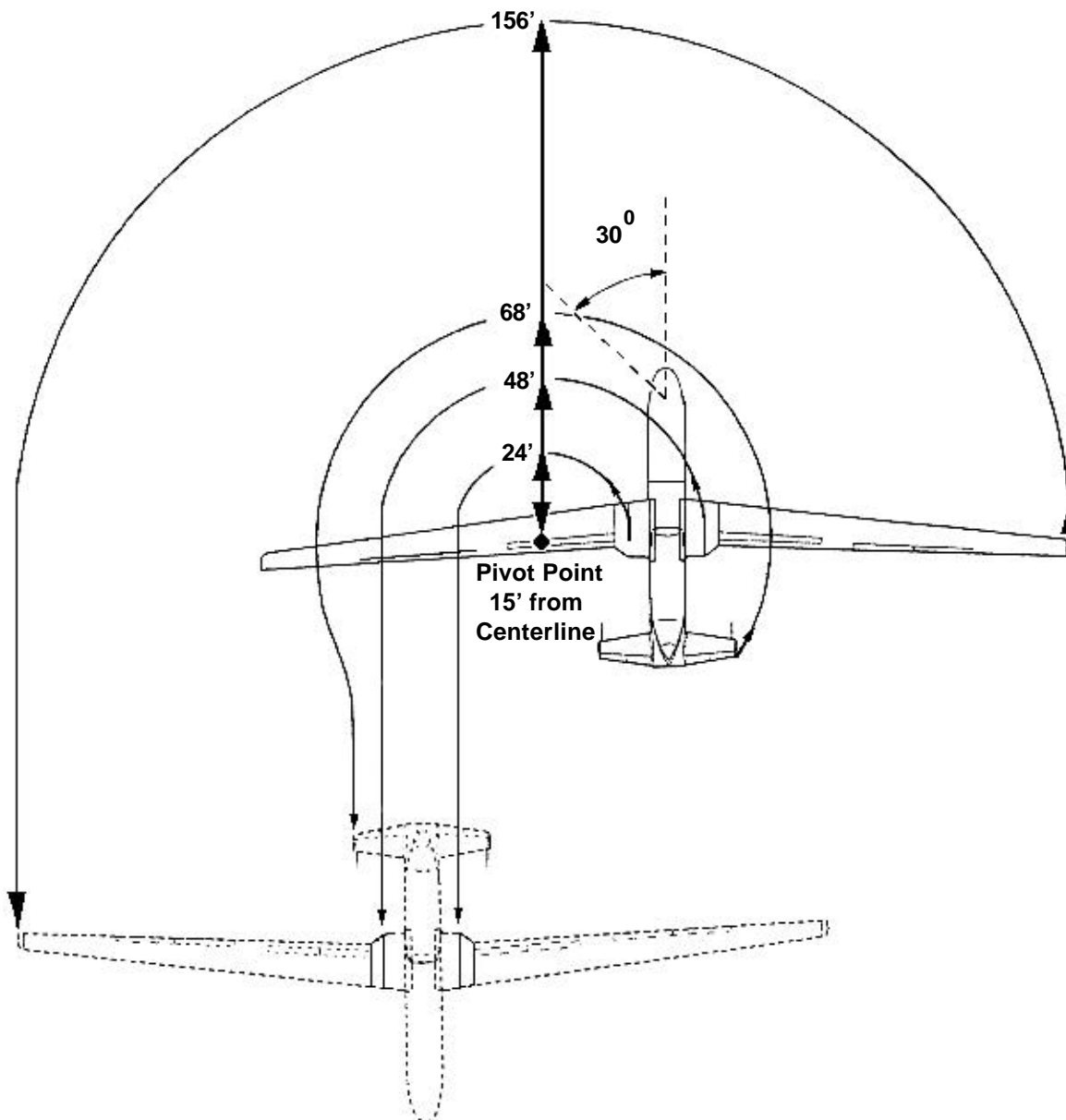
WARNING

Failure to follow the safety precautions while towing the UAV with personnel sitting on the outer wing section may result in injury or death to the personnel.

NOTE:

If the UAV has landing in an unbalanced configuration (one wing heavier than the other), up to four personnel may sit on outer section of the high wing to balance the wings during towing in adverse or emergency conditions.

UAV TURNING AREAS AND GROUND CLEARANCES DURING TOW



UAV RECOVERY - Continued

1. DIVERT PROCEDURES - CONTINUED

p. If a Grounding Cable is available, ground the UAV to a designated grounding point on the tarmac. The UAV grounding points are forward of the right wing and above the right wing on the right side of the fuselage.

- (1) Connect the Ground Cable clamp to a designated grounding point on the tarmac.
- (2) Connect the Ground Cable plug to the UAV receptacle.

q. If necessary, perform the following steps to secure the UAV to the ground.

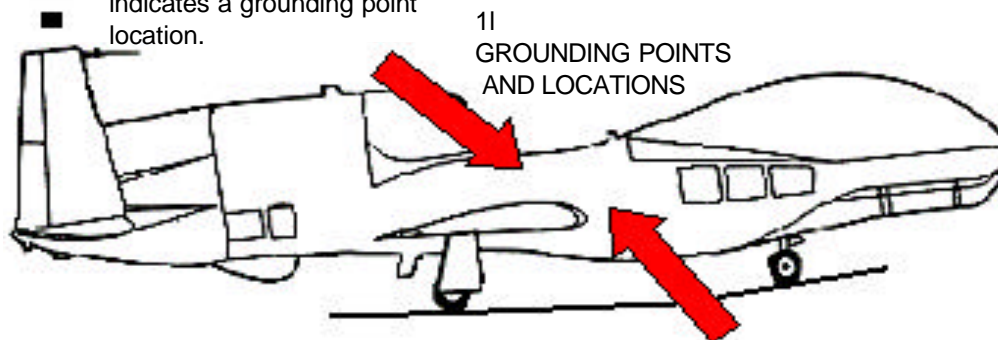
- (1) Remove tiedown adapter plugs or the mylar tape from the UAV at the illustrated locations.
- (2) Install the tiedown adapters, as specified, by part number and location on Table 1. The wing and tail tiedown adapters require a large washer, which is supplied in the Fly-Away Kit. Use a 1-1/16 inch wrench or socket to secure the tiedown adapters to the UAV.
- (3) Attach rope, chain or cargo straps to the tiedown adapters and secure the UAV to the ground. As near as possible, arrange the tiedowns in a symmetrical pattern. As a minimum secure the UAV at the nose, tail and right and left outer wing tiedowns.

r. Maintain security at the UAV to prevent unauthorized access. The UAV has several cryptographically keyed systems that may be classified SECRET. Moving the Comsec Switch to the ZERO position DID NOT declassify all the UAV systems.

s. Use a maintenance stand or equivalent to install the Pitot Tube Cover on the pitot tubes at the top of the ruddervators.

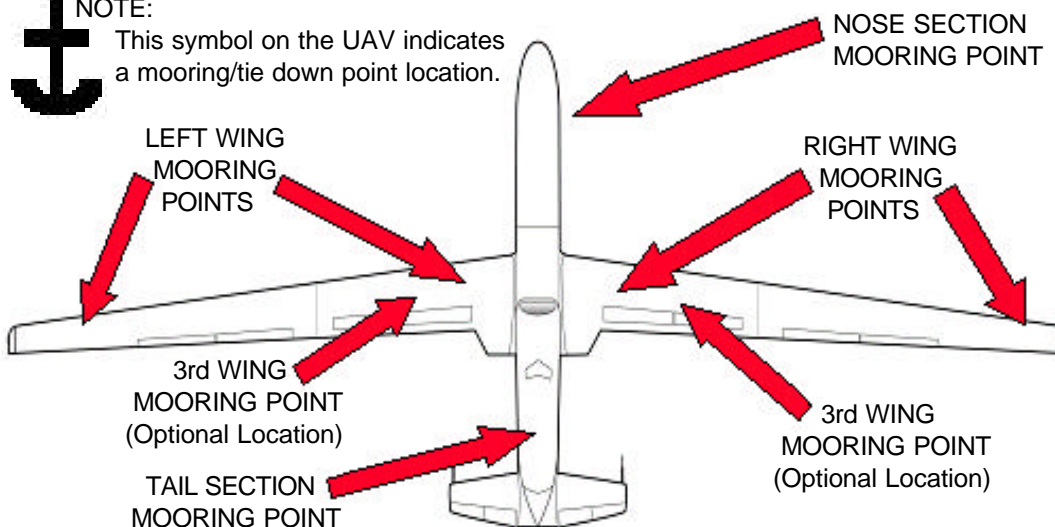
NOTE:

This symbol on the UAV indicates a grounding point location.



NOTE:

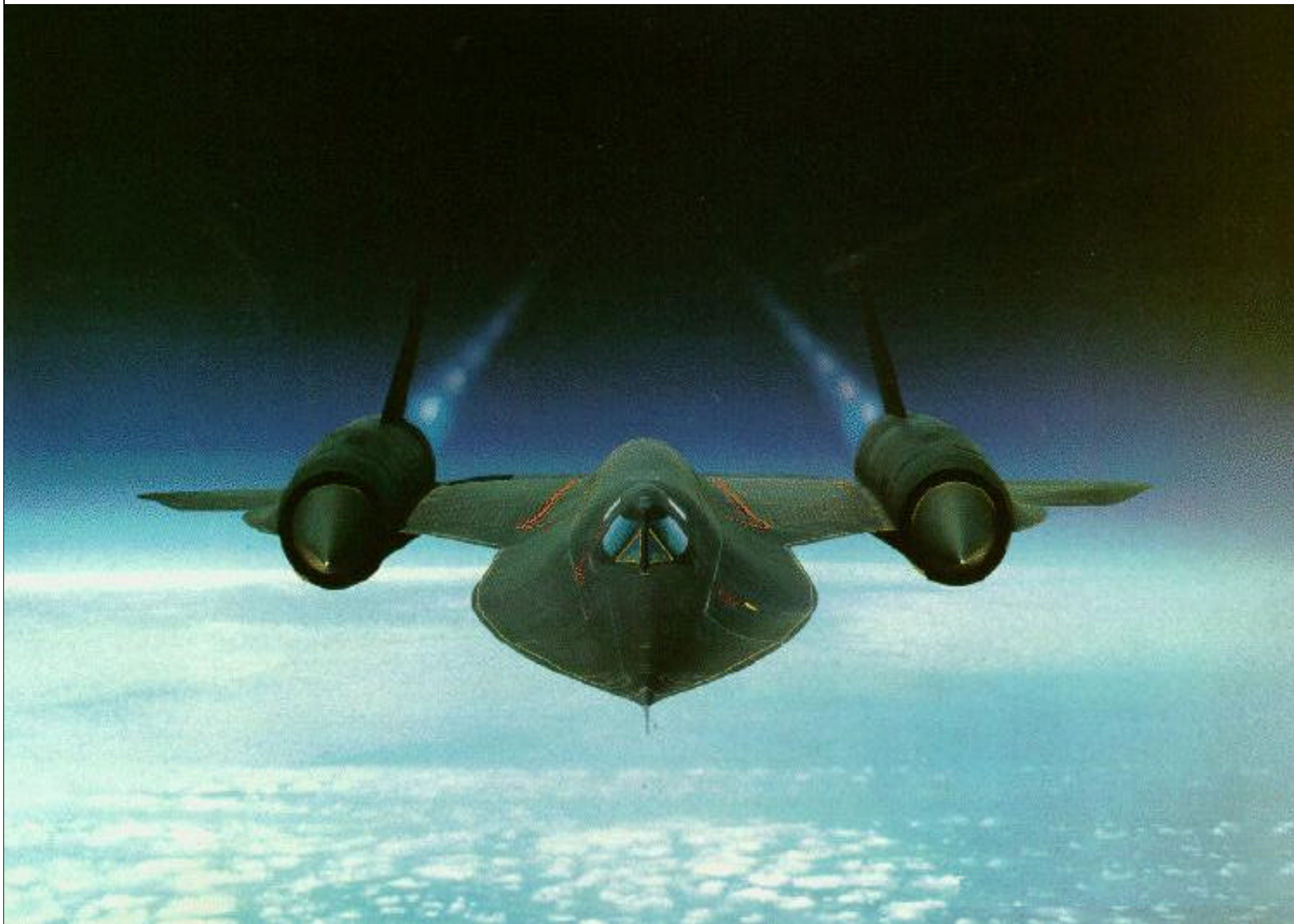
This symbol on the UAV indicates a mooring/tie down point location.



ADAPTER	LOCATION	PART NUMBER
Nose Section	To the right of the NLG-FS 205	3673310M218-1
Tail Section	Bottom of fuselage, below the ground power panel - FS 522	3673310M208-3
Lt Outboard Wing	Outboard of aileron, close to the wing tip - Xw 663	3673310M208-5
Lt Inboard Wing	Forward of MLG - Xw 67.5	3673310M208-3
Rt Outboard Wing	Outboard of aileron, close to the wing tip - Xw 663	3673310M208-5
Rt Inboard Wing	Forward of MLG - Xw 67.5	3673310M208-3

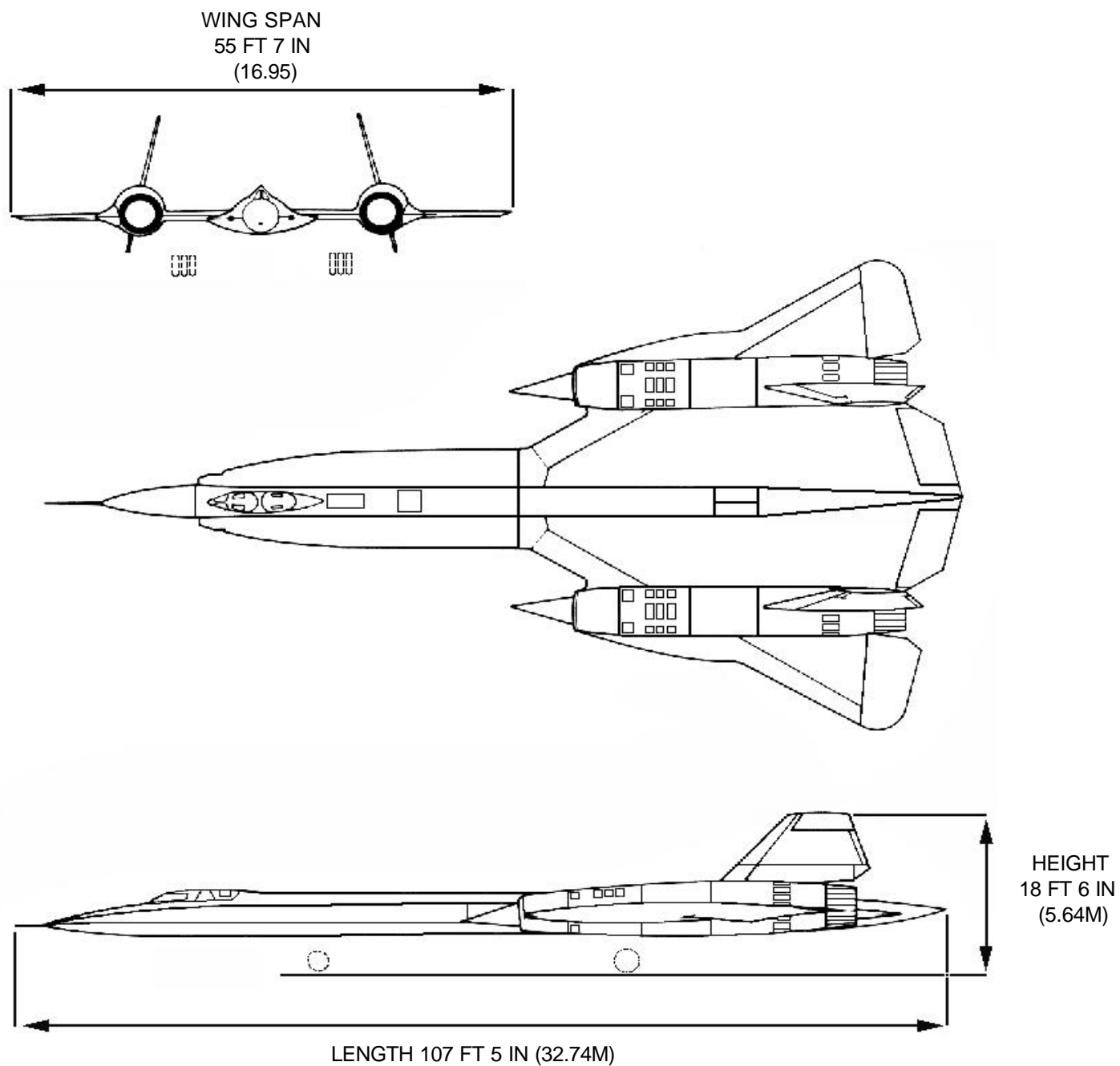
Table 1. UAV Tiedown Locations and Parts

RQ-4A



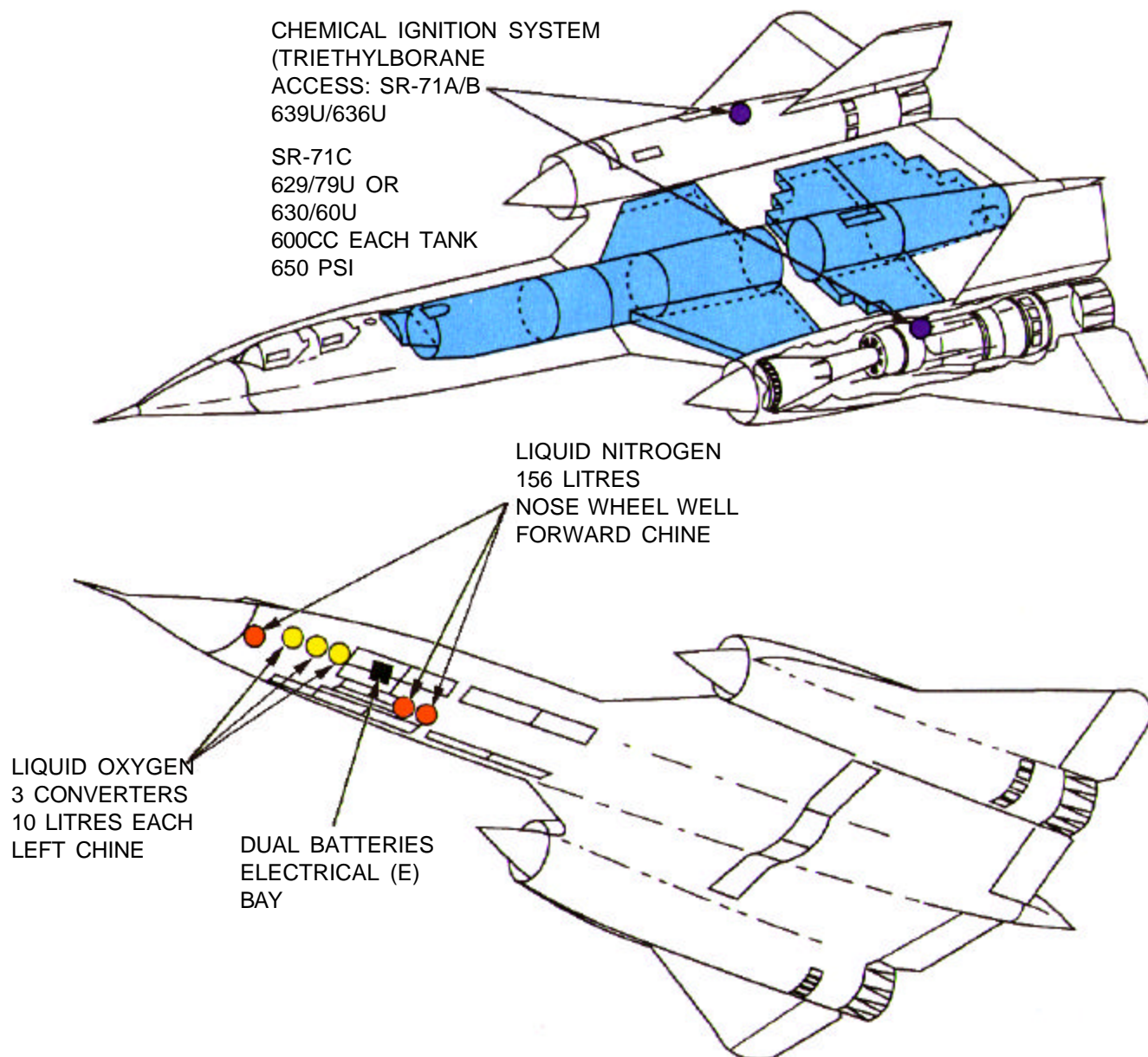
AIRCRAFT DIMENSIONS

SR-71



AIRCRAFT HAZARDS

SR-71



AIRCRAFT HAZARDS-Continued

SR-71

WARNING

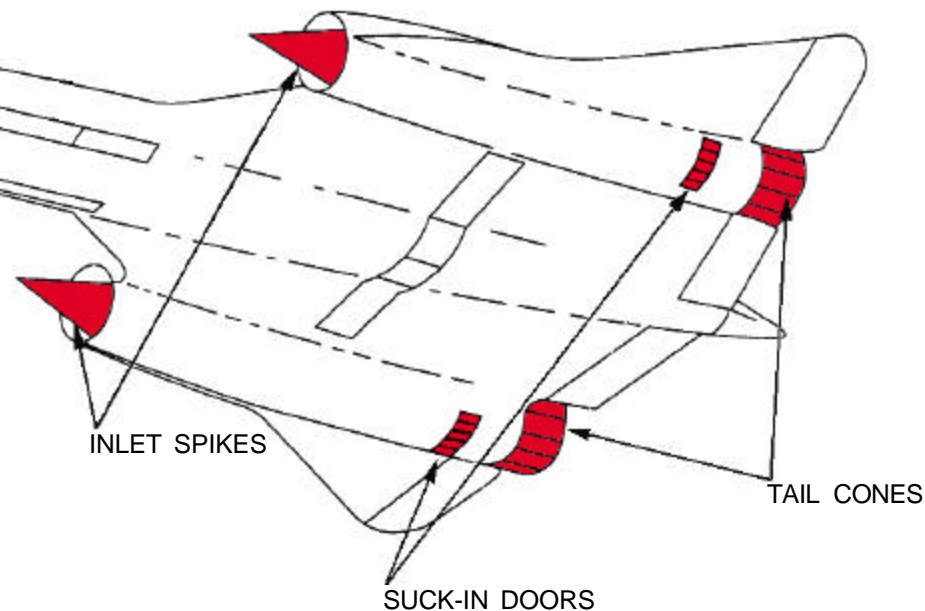
- The SR-71 is equipped with a chemical ignition system containing triethylborane (TEB). A 600cc tank is mounted on the top forward side of each engine. TEB will ignite when exposed to oxygen at all temperatures. TEB is pyrophoric liquid and reacts violently with carbon tetrachloride and halogenated hydrocarbons. Do not use halon 1211 to extinguish fires on the SR-71. Refer to table 10-1 for a complete list of acceptable and unacceptable fire fighting agents.
- Use extreme caution when applying cold liquid or gas extinguishing agents to hot metal surfaces. Applying the cold agents directly to hot metal surfaces can result in stress explosions with possible injury to personnel.

1. ENGINE AIR INLET DUCT FIRE

- a. Comply with emergency engine shutdown procedures.
- b. Apply dry chemical powder or CO2 directly into the engine inlet duct around the inlet spike.

2. ENGINE NACELLE AND TAILPIPE FIRES

- a. Place the chemical "IGNITER PURGE" switch, located on the right instrument panel, to the "DUMP" position (UP). Engines must be running at 5000 to 6000 RPM to dump the CIS tank.



CAUTION

Actuate dump switch immediately to ensure hydraulic pressure and power will be available to dump the CIS tank. Power will be required for up to 10 seconds.

- b. Comply with emergency engine shutdown procedures.
- c. Apply dry chemical powder or CO2 directly into the lower "suck in" door located at the engine accessory section (aft).
- d. If a tail cone fire is indicated, apply agent directly into the engine tail cone.

FIRE FIGHTING AGENTS FOR SR-71 FIRES

(EXCLUDING TEB FIRES)

ACCEPTABLE IN ORDER OF PREFERENCE:

1. AFFF fire extinguisher, 3M I.D. 98-0211- 0170-8.
2. Aqueous Film Forming Foam Liquid, FC206.
3. Aqueous Film Forming Foam, FC200.
4. Carbon Dioxide (CO₂).
5. Purple K Powder (PKP).
6. Water spray or mist.

NOTE:

Dry chemical powder is preferred for nacelle fires.

UNACCEPTABLE:

1. Halon 1211.
2. Mechanical Foam.
3. Ansul +50 B Dry Chemical mixed with area water.
4. Ansul MetalX Dry Chemical mixed with area water.
5. Chlorobromomethane (CBM).
6. High Expansion Foam.
7. Soda and acid type extinguishers.

CAUTION

These agents may be used only as an absolute last resort to extinguish SR-71 fires.

(FIRE FIGHTING AGENTS FOR TEB FIRES)

APPROVED IN ORDER OF PREFERENCE:

1. AFFF fire extinguisher, 3M I.D. 98-0211- 0170-8.
2. Water spray or mist.

PROHIBITED:

1. Halon 1211.
2. Ansul MetalX Dry Chemical mixed with area water.
3. Chlorobromomethane (CBM).
4. High Expansion Foam.
5. Soda and acid type extinguishers.

SR-71

SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw

Ballistic Hose Darming Cutter

Knife Fire Drill II

1/2 Inch Drive Socket Wrench Extension

1/2 Inch Drive Socket Wrench Handle

Drogue Gun Safety Caps (2) Part # 5-10109-30

Canopy Handle (Optional)

AIRCRAFT ENTRY

1. MANUAL ENTRY

- a. Insert socket wrench extension into 1/2 inch drive opening, located on left side of fuselage below each canopy, and rotate clockwise to unlock canopy.

NOTE:

A firefighter on each side (2) of each canopy (2) are required to lift each canopy.

- b. Raise canopies to their normal open position. Canopies must either be held open or if conditions warrant, rotate the canopies aft at the hinge line to shear canopies from aircraft.

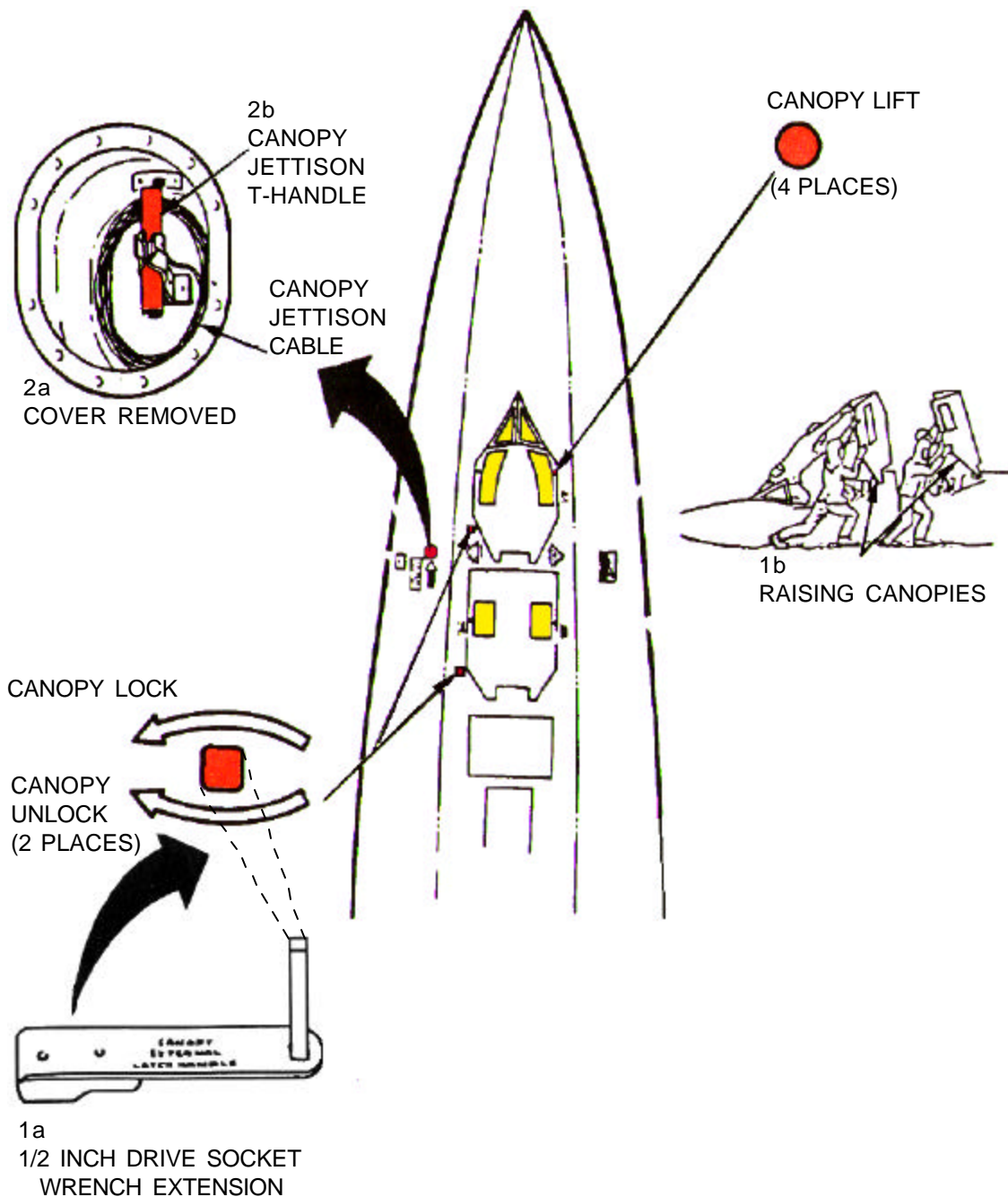
2. EMERGENCY ENTRY

- a. Press quick disconnect on jettison access cover, located on left side of fuselage below pilot's canopy (fwd), and remove cover.
- b. Pull canopy jettison T-handle out approximately 9 feet and pull sharply to jettison canopies.

WARNING

The ejection seats must be safetied immediately to prevent injury or death to personnel.

SR-71



ENGINE SHUTDOWN

SR-71

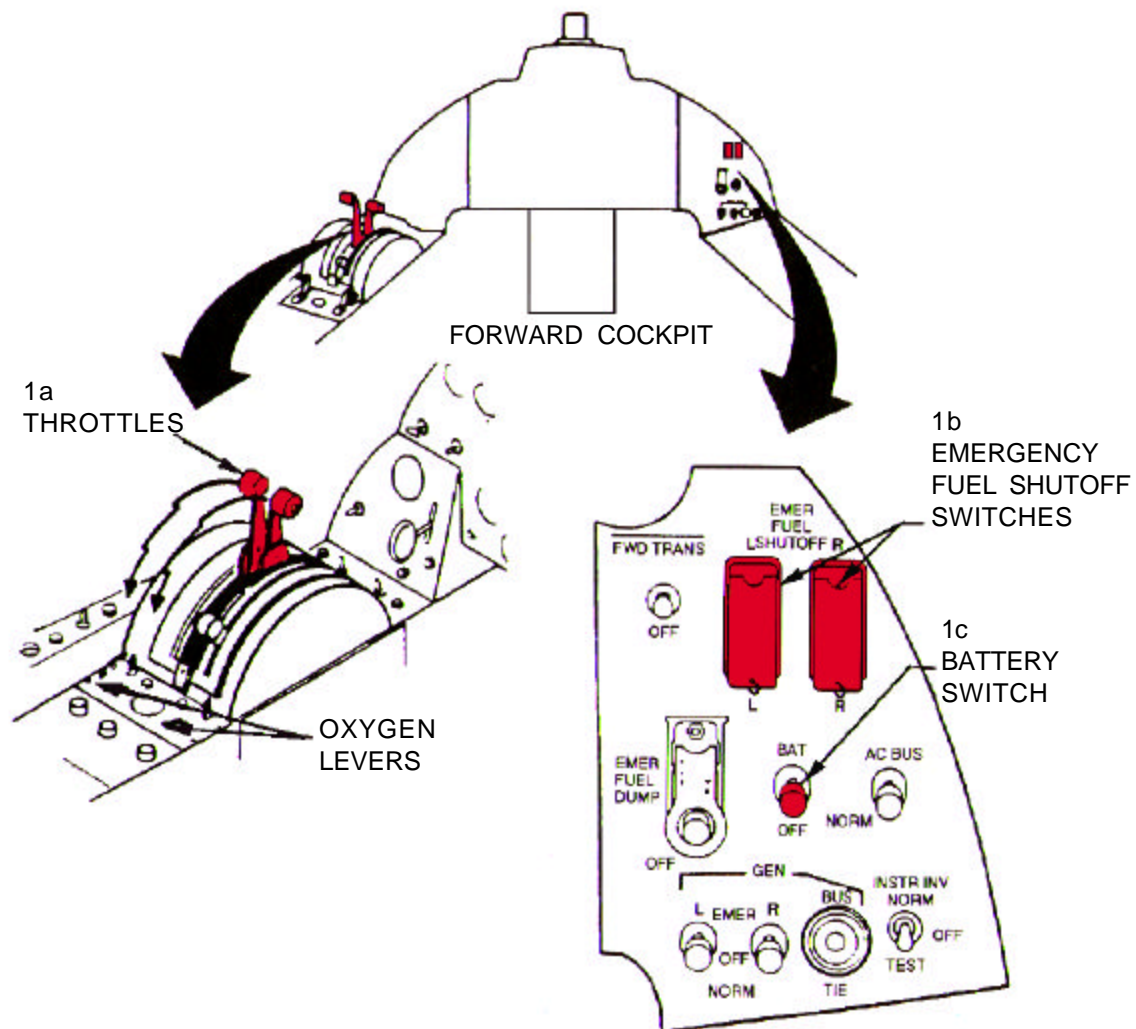
1. ENGINE SHUTDOWN

- Retard throttles, located on pilot's left side console, to IDLE DETENT then raise throttles and move aft to CUT-OFF position.
- Place emergency fuel shutoff switches, located on pilot's right instrument panel, to OFF position.

NOTE:

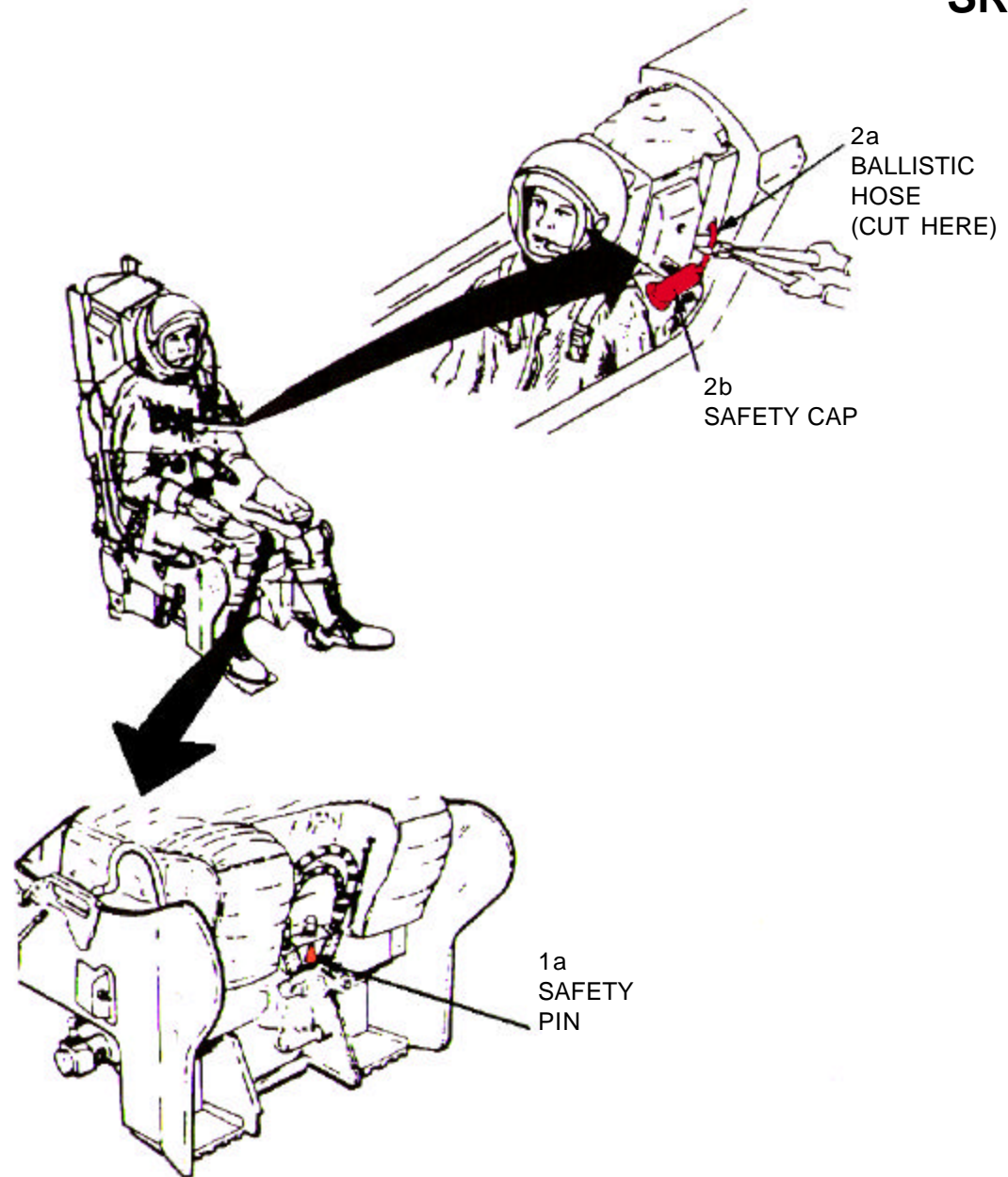
Wait 5 seconds to allow fuel valves to close before turning battery OFF.

- Place battery switch, located on pilot's right instrument panel, to OFF position.



SAFETYING EJECTION SEAT

1. NORMAL SAFETYING EJECTION SEAT
 - a. Insert safety pin in seat ejection control handle, located front center of each seat.
2. EMERGENCY SAFETYING EJECTION SEAT
 - a. Cut ballistic hose, located on top left side of each ejection seat.
 - b. Install drogue gun safety caps on parachute drogue guns, located behind the left shoulder of each crewmember.

**SR-71**

AIRCREW EXTRACTION

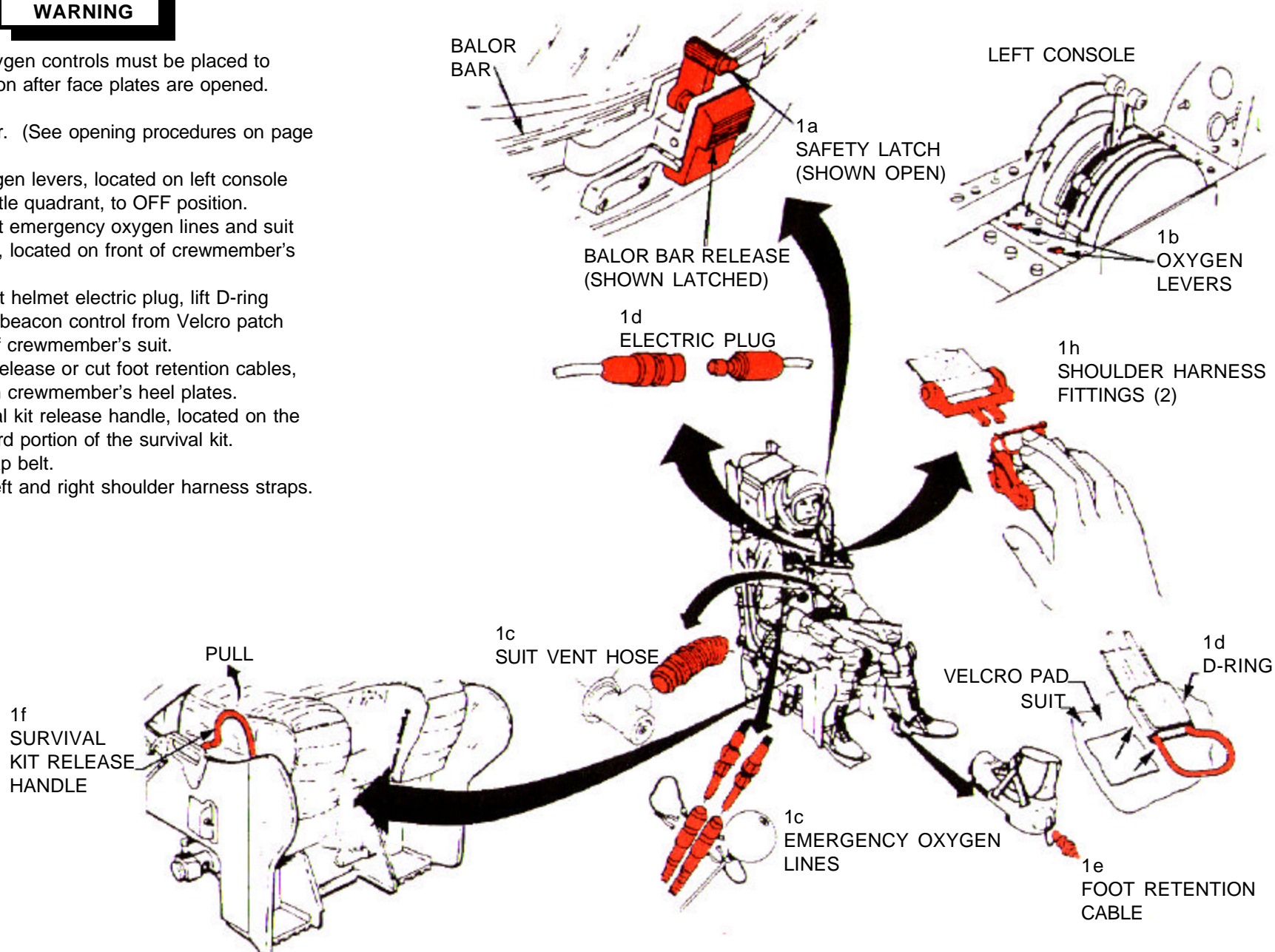
SR-71

1. AIRCREW EXTRACTION

WARNING

Normal oxygen controls must be placed to OFF position after face plates are opened.

- a. Open visor. (See opening procedures on page SR-71.8)
- b. Place oxygen levers, located on left console aft of throttle quadrant, to OFF position.
- c. Disconnect emergency oxygen lines and suit vent hose, located on front of crewmember's suit.
- d. Disconnect helmet electric plug, lift D-ring and radio beacon control from Velcro patch on front of crewmember's suit.
- e. Manually release or cut foot retention cables, located on crewmember's heel plates.
- f. Pull survival kit release handle, located on the right forward portion of the survival kit.
- g. Release lap belt.
- h. Release left and right shoulder harness straps.

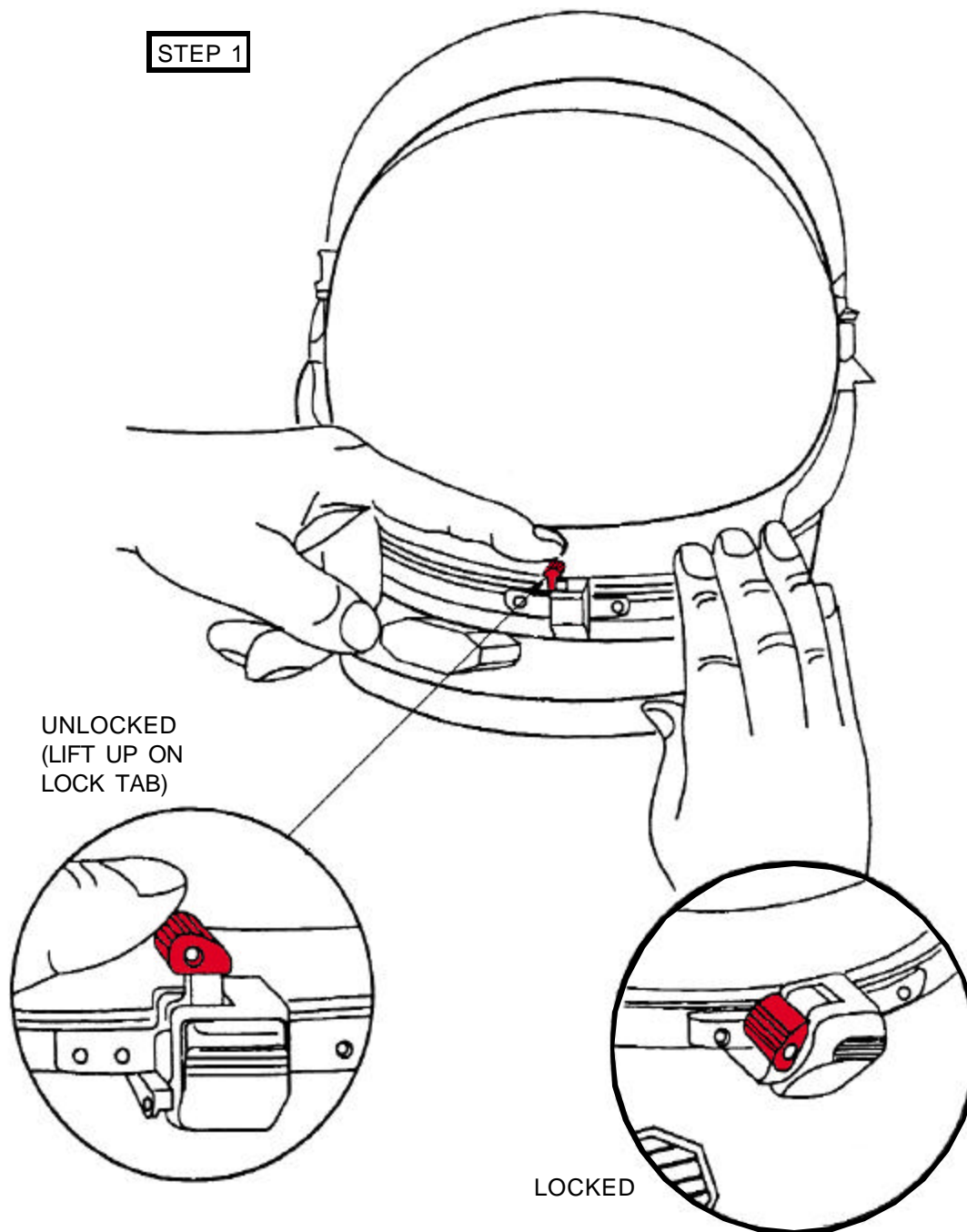


VISOR LATCH OPENING PROCEDURES

SR-71

1. TO OPEN THE VISOR

- a. Facing the front of the helmet, identify the balor bar (aluminum alloy curved bar) that wraps around the front of the lower part of the visor.
- b. Lift up the 1/2 inch long locking tab, located left side of locking mechanism (looking visor head on), until it is in the vertical position.
- c. Push down on the entire balor bar, while holding bar down (movement is 1/8 inch), push in on the centrally located visor release latch (tends to have a rotating motion rather than a straight in push motion).
- d. While continuing to push in on the spring-loaded release latch, release the downward pressure on the balor bar. The balor bar will spring up.
- e. Force the balor bar up over the top of the helmet which will open the visor.

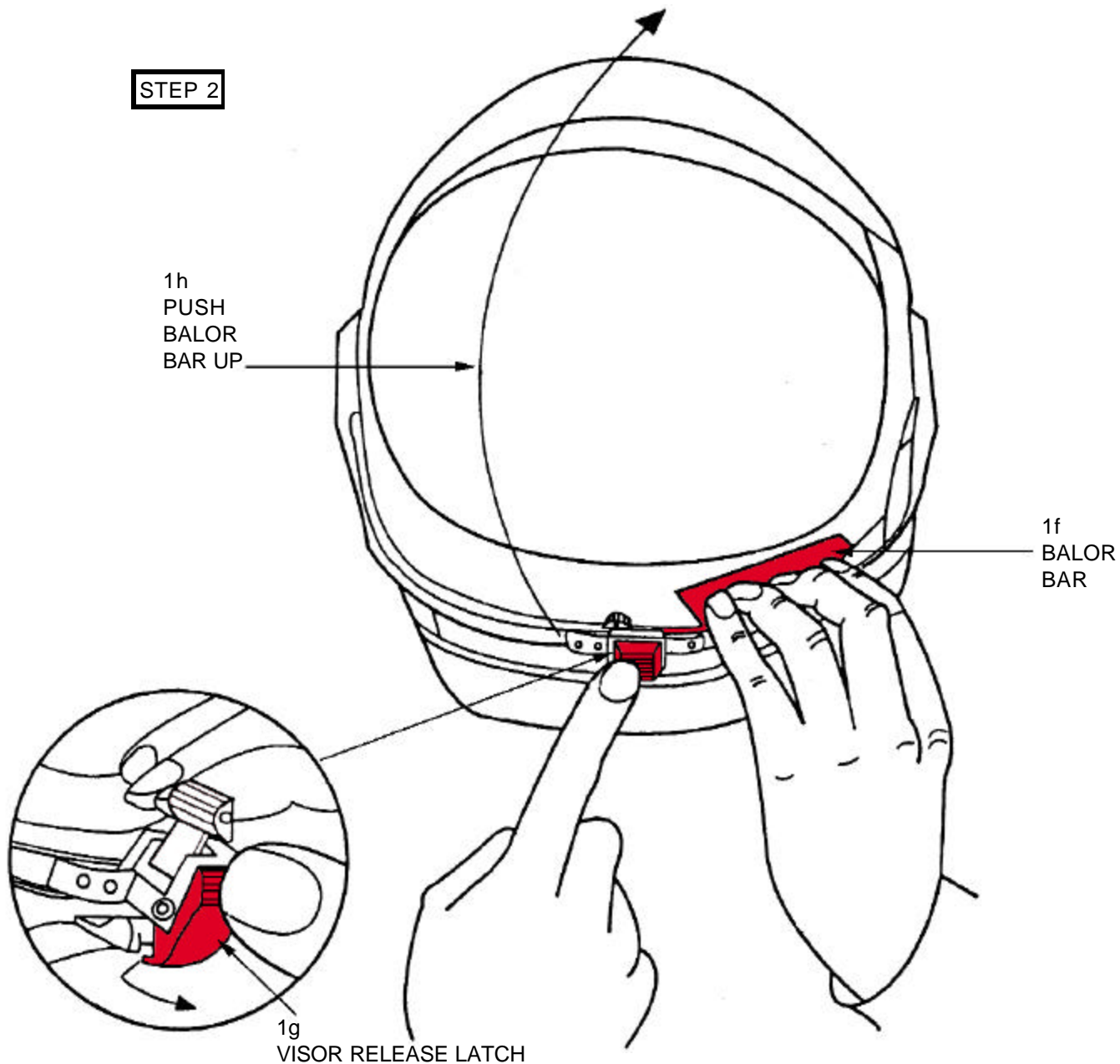
STEP 1

VISOR LATCH OPENING PROCEDURES-Continued

SR-71

1. TO OPEN THE VISOR-Continued

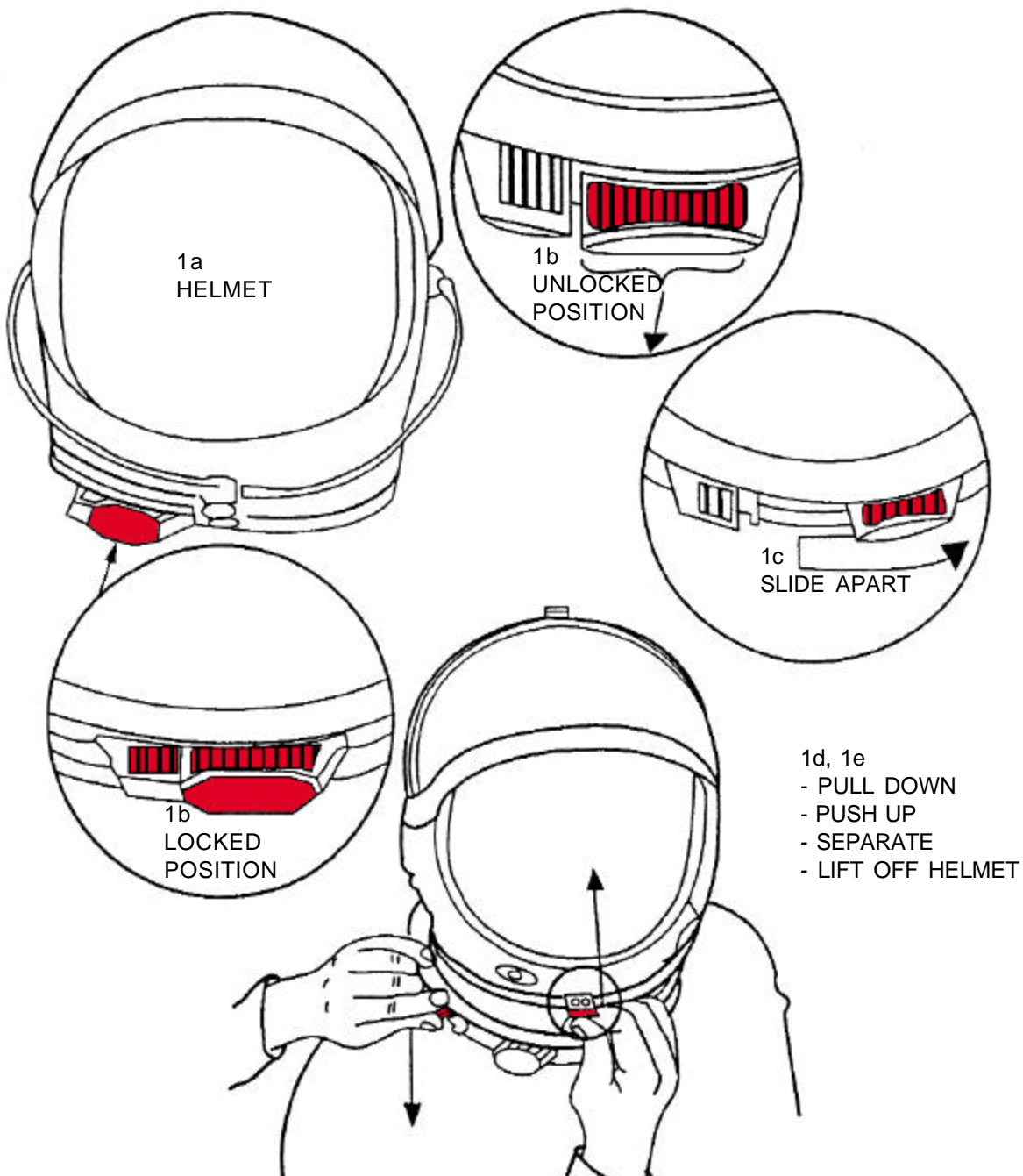
- f. Pull down on balor bar.
- g. While pulling down on balor bar, push in on the visor release latch.
- h. Lift the balor bar up and push it to the top of the helmet to the full open position.



HELMET REMOVAL

1. TO REMOVE THE HELMET

- a. Facing the front of the helmet, identify the neck ring (the lower most metal ring before getting to the gold colored cloth of the suit).
- b. Slightly left of center (looking head on at the front of helmet) a black mechanism locks the neck ring to the suit. With both hands, grasp the left part of this latch with left hand and the right part (latch has raised lip) with right hand.
- c. Pull right portion away from neck ring and at same time pull latch apart until separated.
- d. At this point, the locking teeth (or dogs) inside the ring have now receded into the neck ring freeing the helmet from the suit.
- e. The seal between the helmet and neck ring will take some effort to separate once it is unlocked. This separation can be accomplished fairly easily by holding down on the neck ring locking mechanism while pulling up on the latch mechanism used to lock the balor bar in the down position.



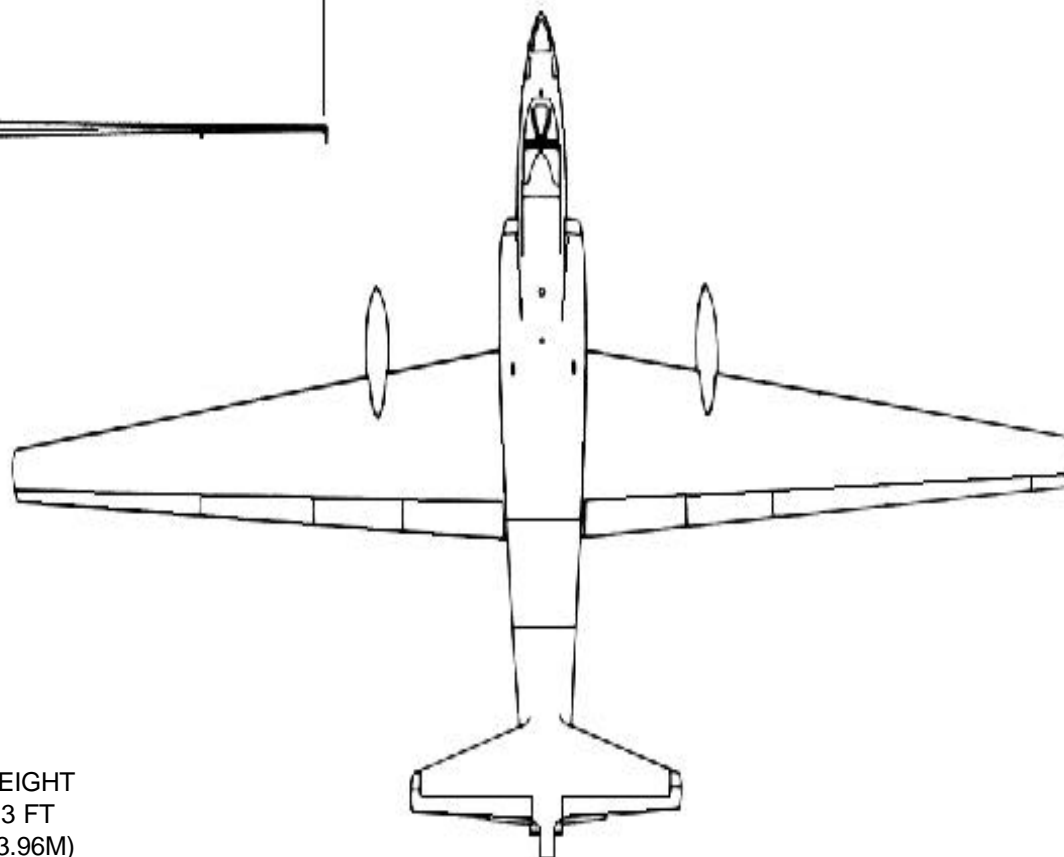
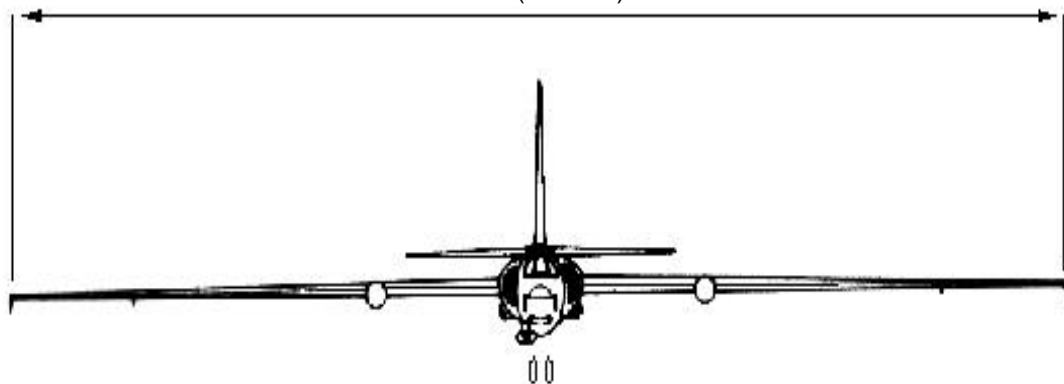
SR-71



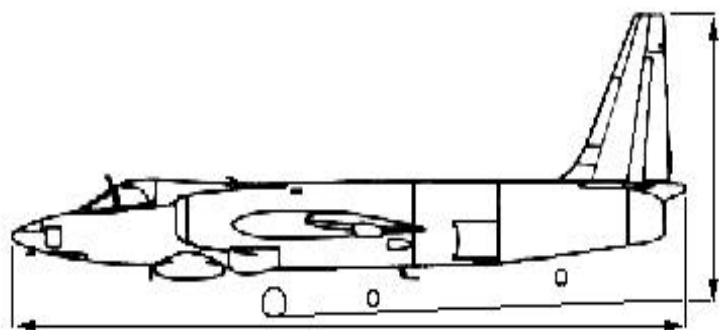
AIRCRAFT DIMENSIONS

U-2

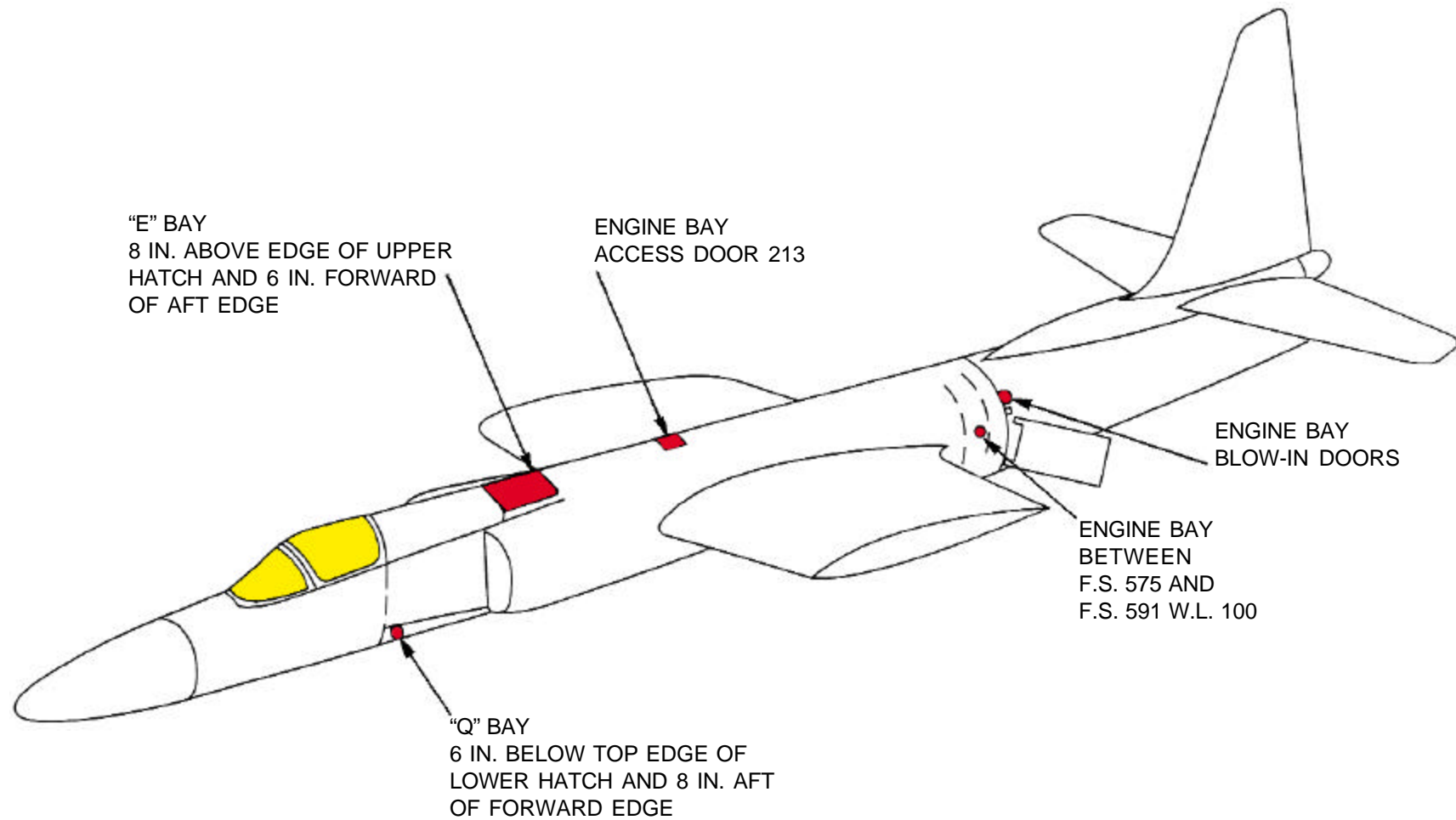
WING SPAN
80 FT (24.38 M)



HEIGHT
13 FT
(3.96M)



LENGTH
49 FT 7 IN (15.11 M)

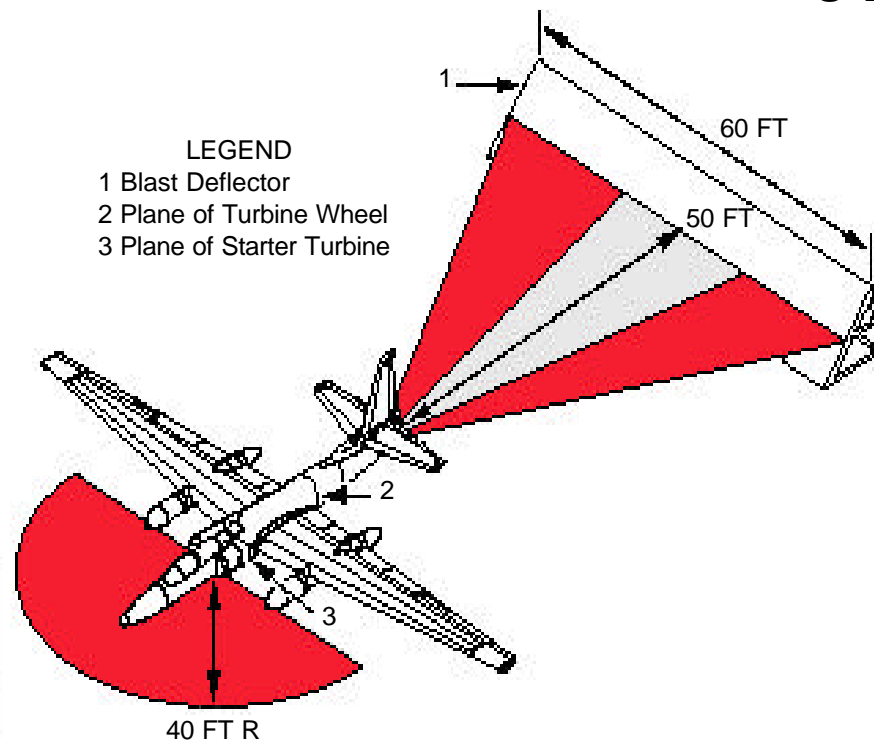
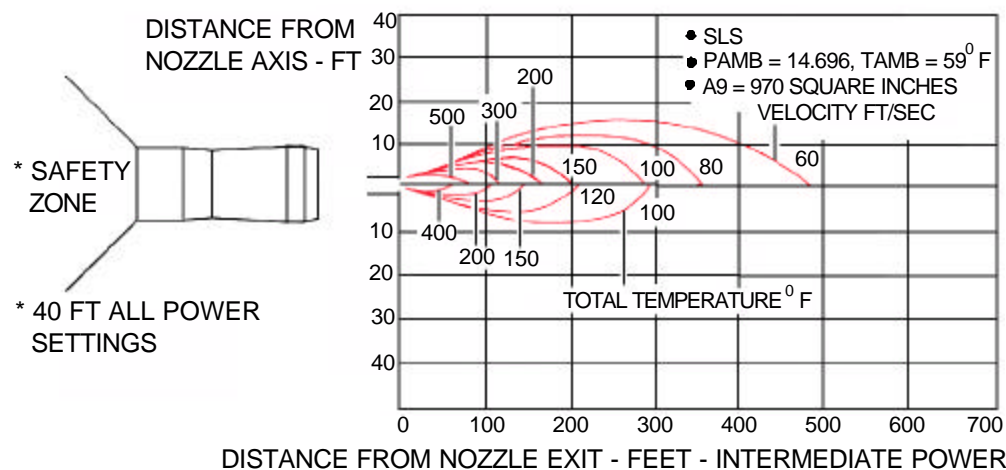
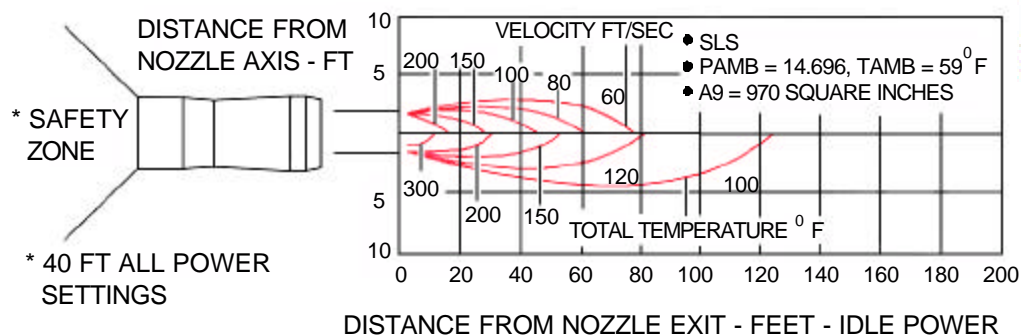


AIRCRAFT HAZARDS INFORMATION

1. ENGINE GROUND RUNUP DANGER AREAS

WARNING

- The area near the intake ducts, starter exhaust, and engine exhaust is very dangerous - keep clear.
- During start and runup, avoid plane of starter turbine and engine turbine wheels.
- During runup, engine noise may cause permanent damage to ears. Within 100 feet, use ear perscribed plugs. Within 50 feet use perscribed ear plugs and protective covers.
- If blast deflector is not available, clear aft exhaust area for 200 feet.



SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw
 1/2 In. Drive Socket Wrench Extension
 1/2 In. Drive Socket Wrench Handle
 Disarming Tool Fire Drill II

AIRCRAFT ENTRY - U-2S AND U-2ST MODELS

WARNING

If engine is running, personnel approaching aircraft must be aware of the intake danger areas, see page U-2.4, and use a means of protecting themselves to reduce the hazard of injury or death from engine intake suction and exhaust.

1. MANUAL ENTRY

NOTE:

In two seat aircraft, procedures are identical.

- a. Depress spring-loaded retaining button at the base of the canopy locking lever on the right side of the aircraft below the canopy rail. The canopy locking lever will spring free from its flush mounted position. Rotate the lever in a clockwise direction to release canopy lock. Lift canopy from rail and open toward left side of aircraft until hold-open prop latch engages.

- b. Insert 1/2 inch drive socket wrench extension into 1/2 inch square drive socket opening, located on right side of fuselage behind canopy, rotate handle counterclockwise.

2. EMERGENCY ENTRY

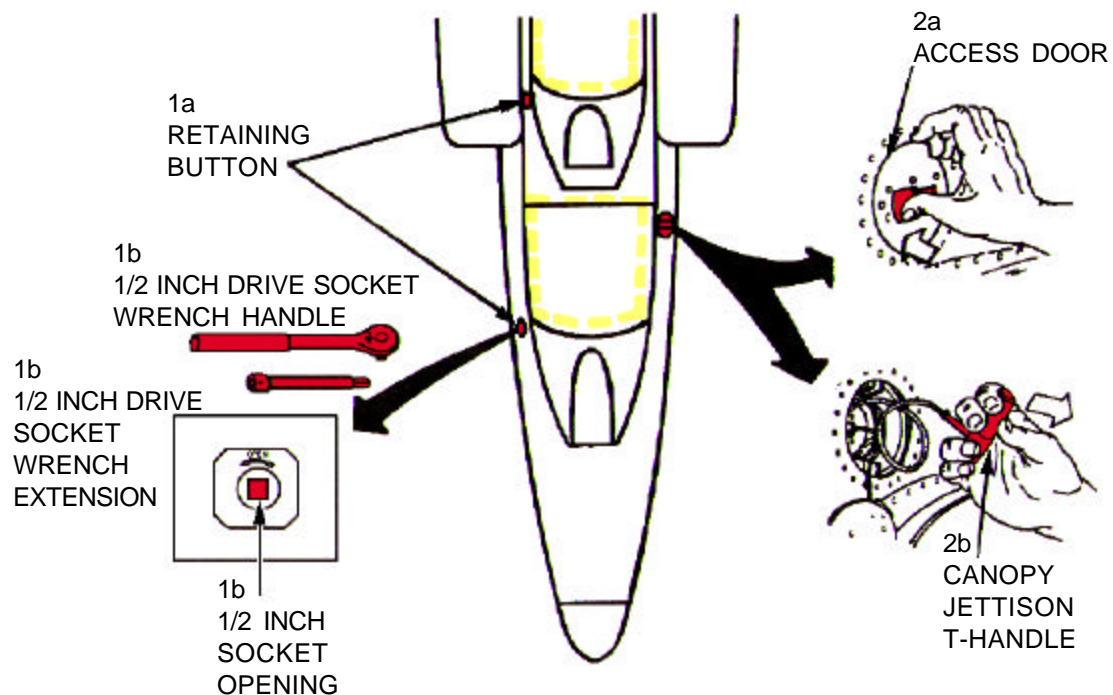
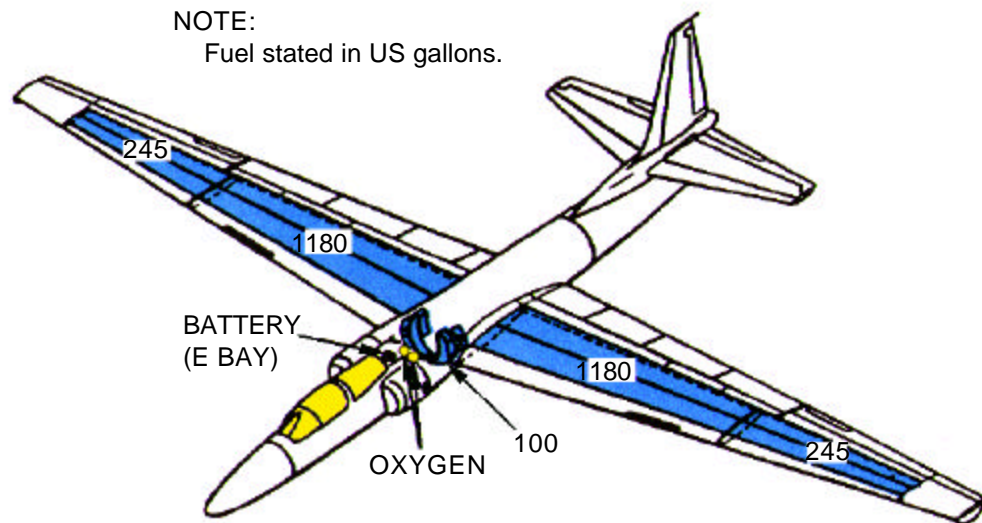
- a. Push quick-release button on access door, located on left forward side of fuselage below canopy, withdraw T-handle, and uncoil cable to approximately 6 feet. Do not apply tension to cable until it is uncoiled.
- b. Grasp T-handle and pull sharply. Canopy will jettison up and aft immediately. Avoid canopy impact area.

3. CUT-IN

- a. Cut-in around canopy frame on all four sides as required.

NOTE:

Fuel stated in US gallons.



ENGINE AND OXYGEN SHUTDOWN

1. ENGINE SHUTDOWN

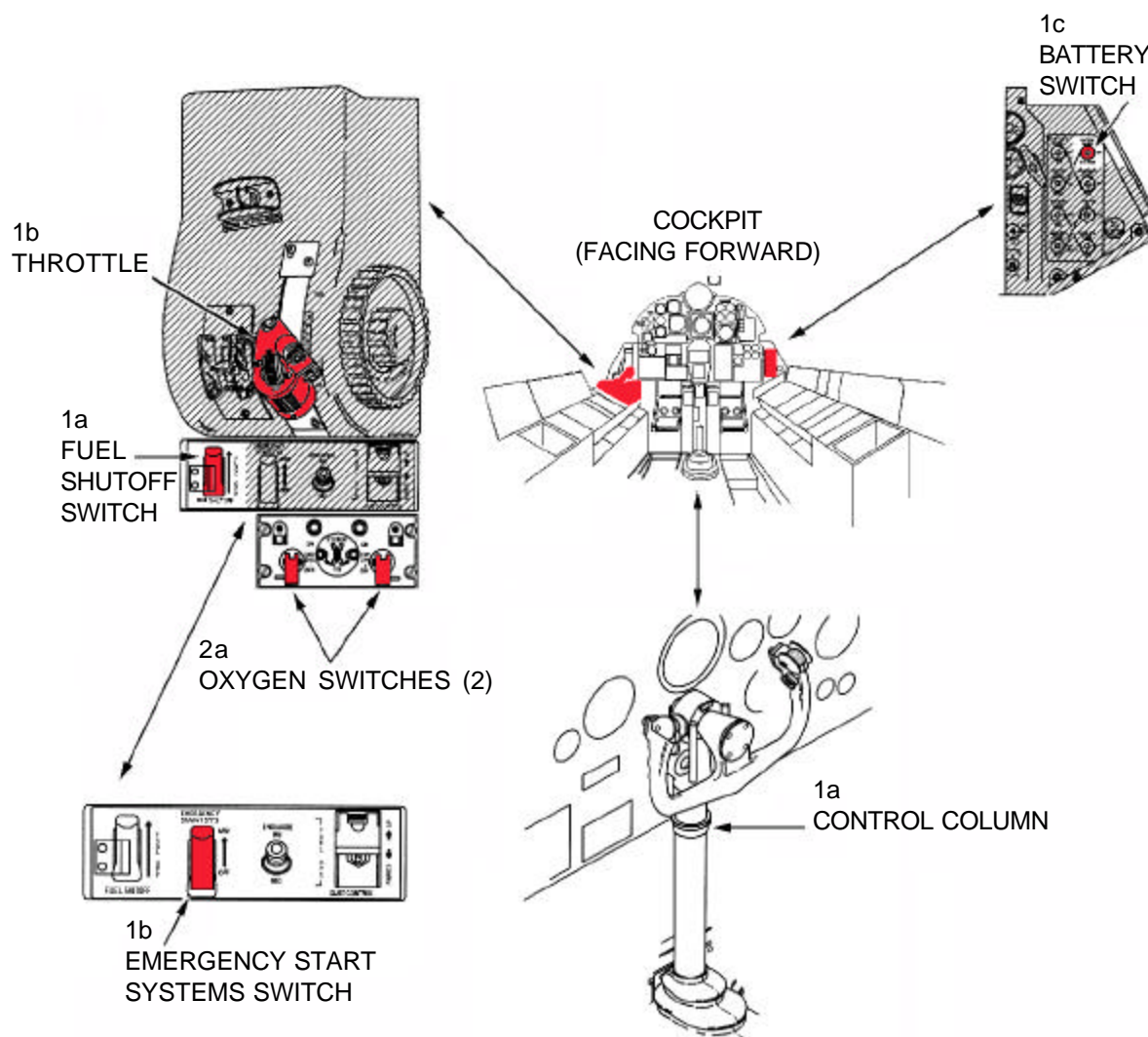
WARNING

Reaching between the control column and instrument panel to move the control column is hazardous, as control column initiator may pyrotechnically actuate and quickly position the control column forward, causing injury to personnel.

- a. Move the guarded toggle fuel shutoff switch, located aft of throttle, right to OFF.
- b. Pull throttle, located on forward left side console, aft to OFF.
- c. Position battery switch, located lower right of forward instrument panel, to OFF.
- d. Position emergency start systems switch to OFF, if armed.

2. OXYGEN SHUTDOWN

- a. Position oxygen system consisting of two guarded toggle switches, located aft of fuel shutoff switch panel, aft to OFF.



AIRCREW EXTRACTION

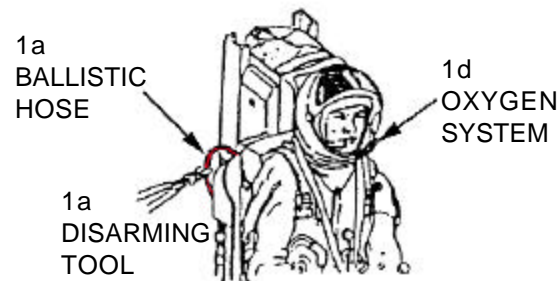
1. RAPID AIRCREW EXTRACTION

- a. Sever ballistic hose at upper right of seat with disarming tool.
- b. Sever canopy unlock thruster lower hose with disarming tool.

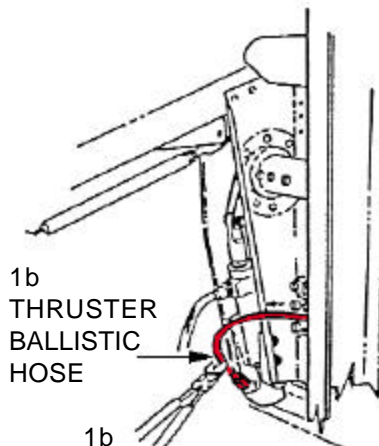
WARNING

Reaching between control column and instrument panel to move control column is hazardous, as control column initiator may fire, causing injury to personnel.

- c. While avoiding placing arm between control column and instrument panel, move control column forward to end of travel.
- d. Insure oxygen system is OFF at helmet prior to unlocking faceplate or visor of helmet. (See VISOR LATCH OPENING PROCEDURES.)
- e. Depress thumb button and pull scramble handle to release personal restraints. (Expect several loud ballistic reports from equipment release initiators.)
- f. Pull up on kit handle to release kit from crewmember.
- g. Remove crewmember.



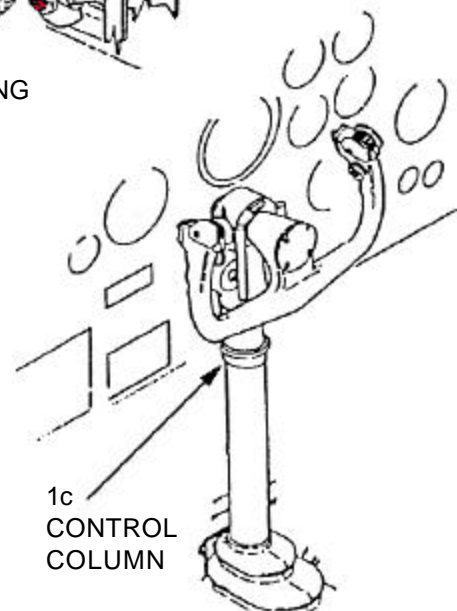
1a
DISARMING
TOOL



1b
DISARMING
TOOL

1f
SURVIVAL
KIT HANDLE

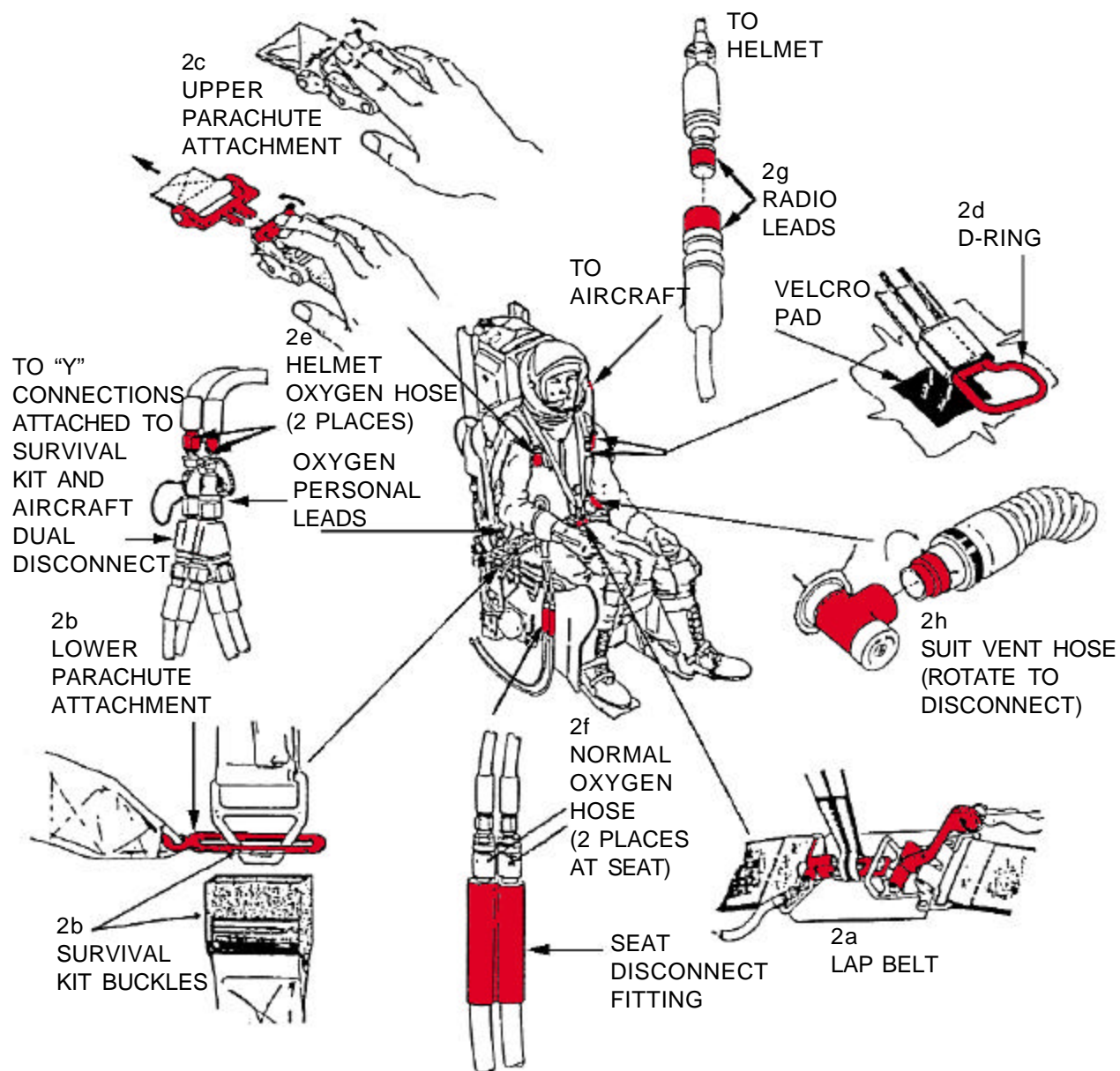
1e
SCRAMBLE
HANDLE

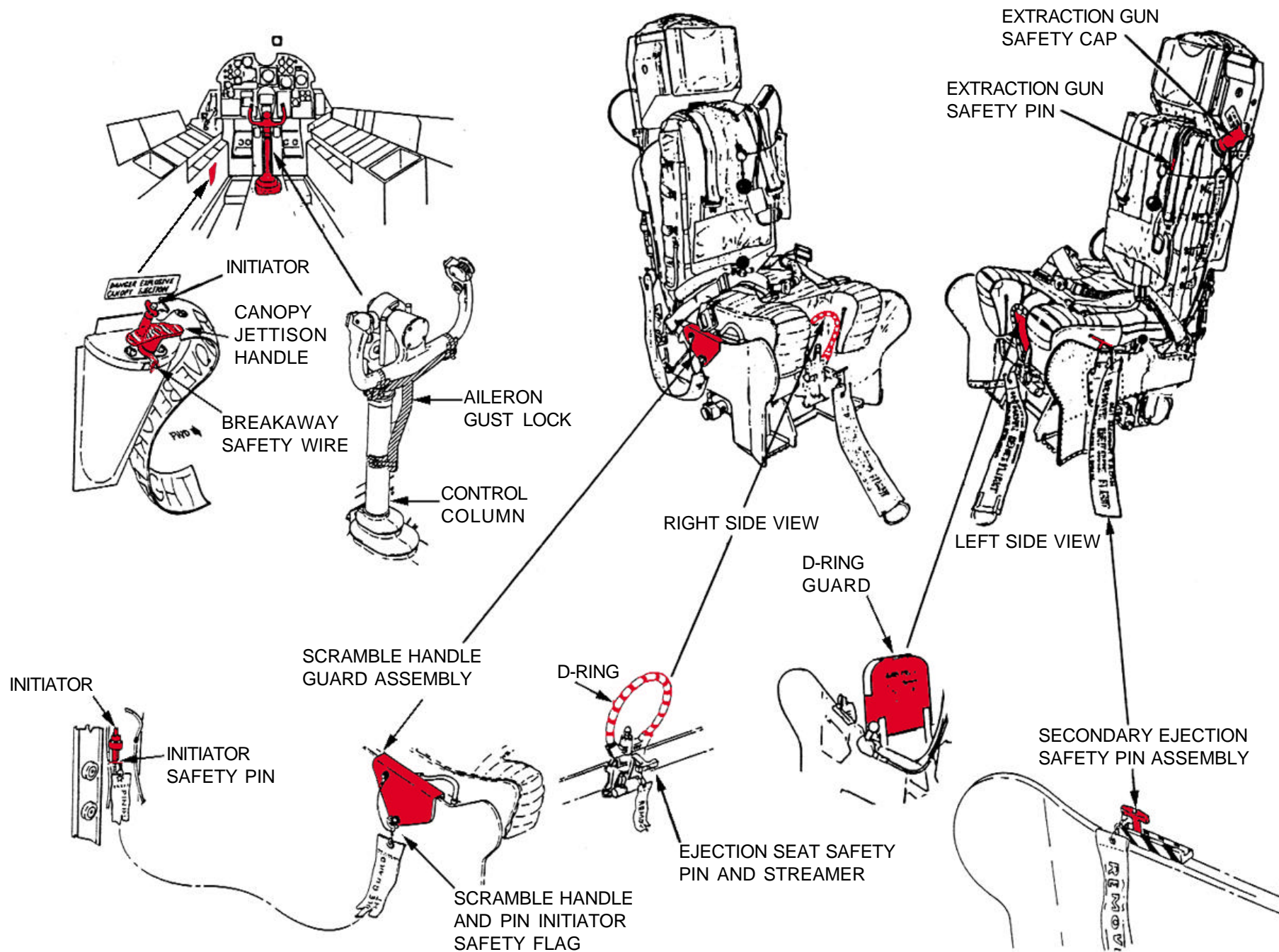


AIRCREW EXTRACTION-Continued

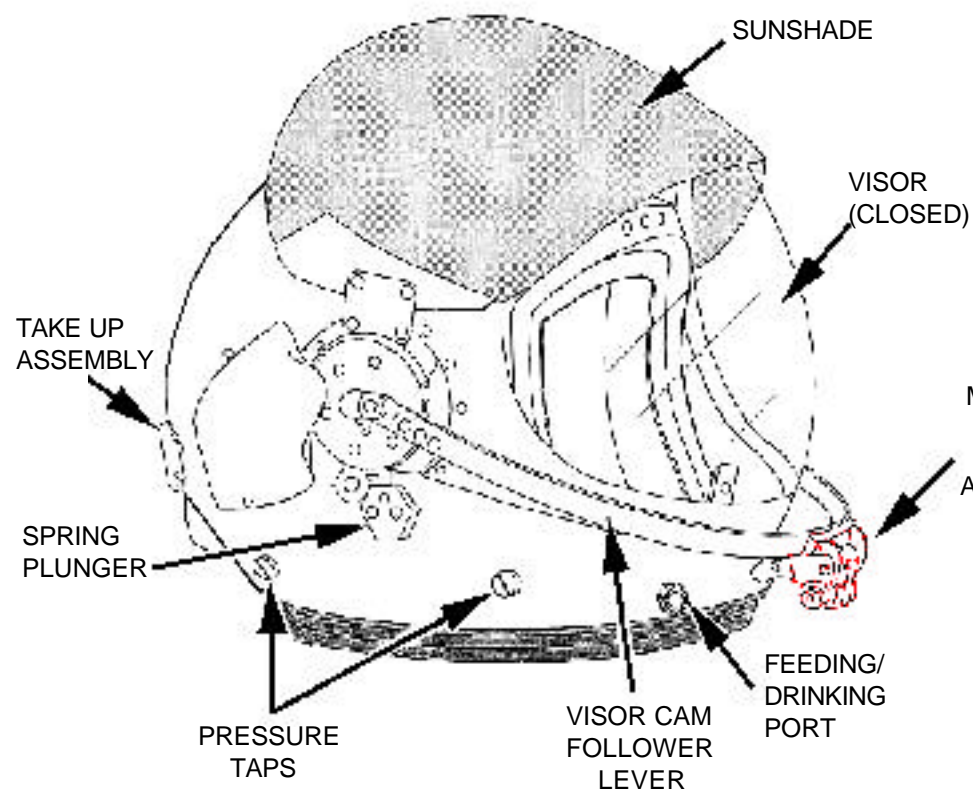
2. NORMAL AIRCREW EXTRACTION

- a. Open lap belt (this will also release shoulder harness).
- b. Remove lower parachute attachments and survival kit belts.
- c. Disconnect upper parachute shoulder attachments.
- d. Lift parachute D-ring from Velcro pad.
- e. Disconnect both oxygen hoses from helmet.
- f. Unsnap oxygen keepers - 2 places.
- g. Disconnect radio leads.
- h. Disconnect suit vent hose.
- i. Remove crewmember. (Spur attachments will disconnect when member is raised up.)

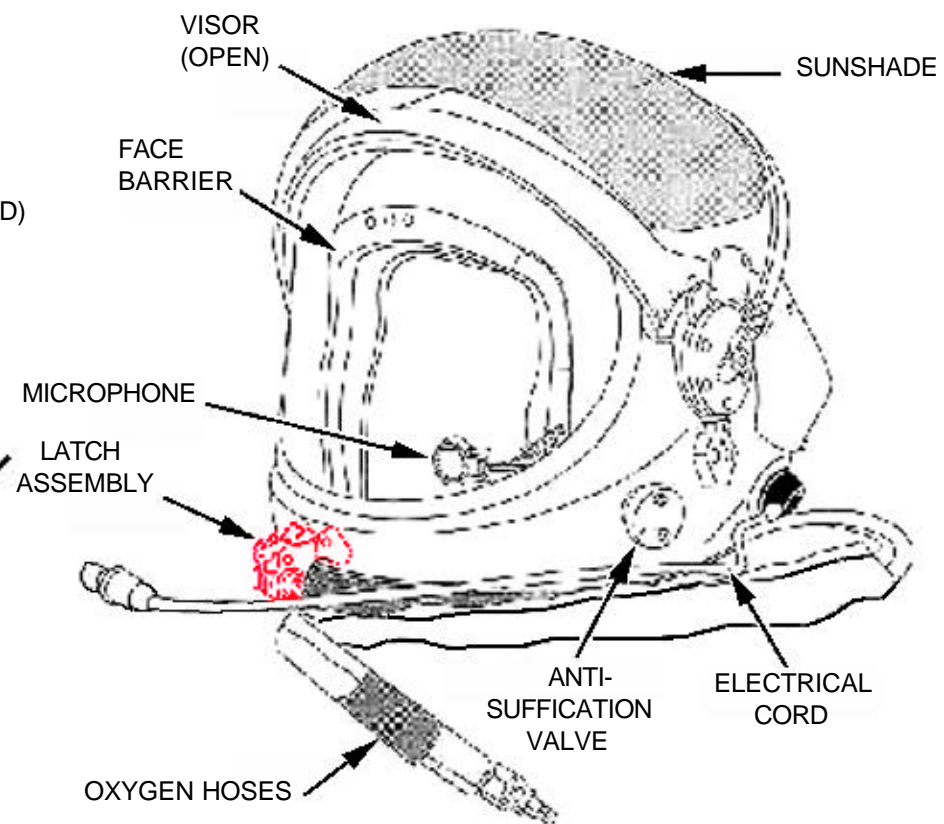




HELMET COMPONENTS



HELMET - VISOR CLOSED - RIGHT VIEW



HELMET - VISOR OPEN - LEFT VIEW

NOTE

Chapter 11 contains emergency rescue and mishap response information for the following aircraft:

USAF	T-1A
USAF	T-3A
USAF	T-6A
USAF	T-37
USAF	T-38
USAF	T-39/B
USAF	T-41
USAF	T-43
JOINT SERVICE	OT-47B, UC-35A/B/C/D, TR.20

CHAPTER 11

U.S. AIR FORCE

TRAINER

AEROSPACE EMERGENCY RESCUE AND MISHAP RESPONSE INFORMATION

11-1. INTRODUCTION AND USE.

11-2. This section contains emergency rescue and mishap response information illustrations in alpha-numerical order relative to type and model of aircraft. This arrangement of illustrations is maintained from Chapter 4 throughout the remainder of the publication.

11-3. GENERAL ARRANGEMENT.

11-4. Aircraft type designation has been positioned in the upper right corner of the horizontal illustration for rapid identification. Additional aids to rapid orientation are:

a. Recent technological advances in aviation have caused concern for the modern firefighter. Aircraft hazards, cabin configurations, airframe materials, and any other information that would be helpful in fighting fires, the locating and rescue of personnel will be added as the information becomes available.

b. Suggested special tools/equipment are listed in the upper left corner, on the Aircraft/Entry page of each listed aircraft.

c. Procedural steps covering emergency/normal entrances, cut-ins, engine/APU shutdown, safetying ejection/escape systems, and aircrew extraction are outlined on the left side of each page with coordinated illustrations on the right.

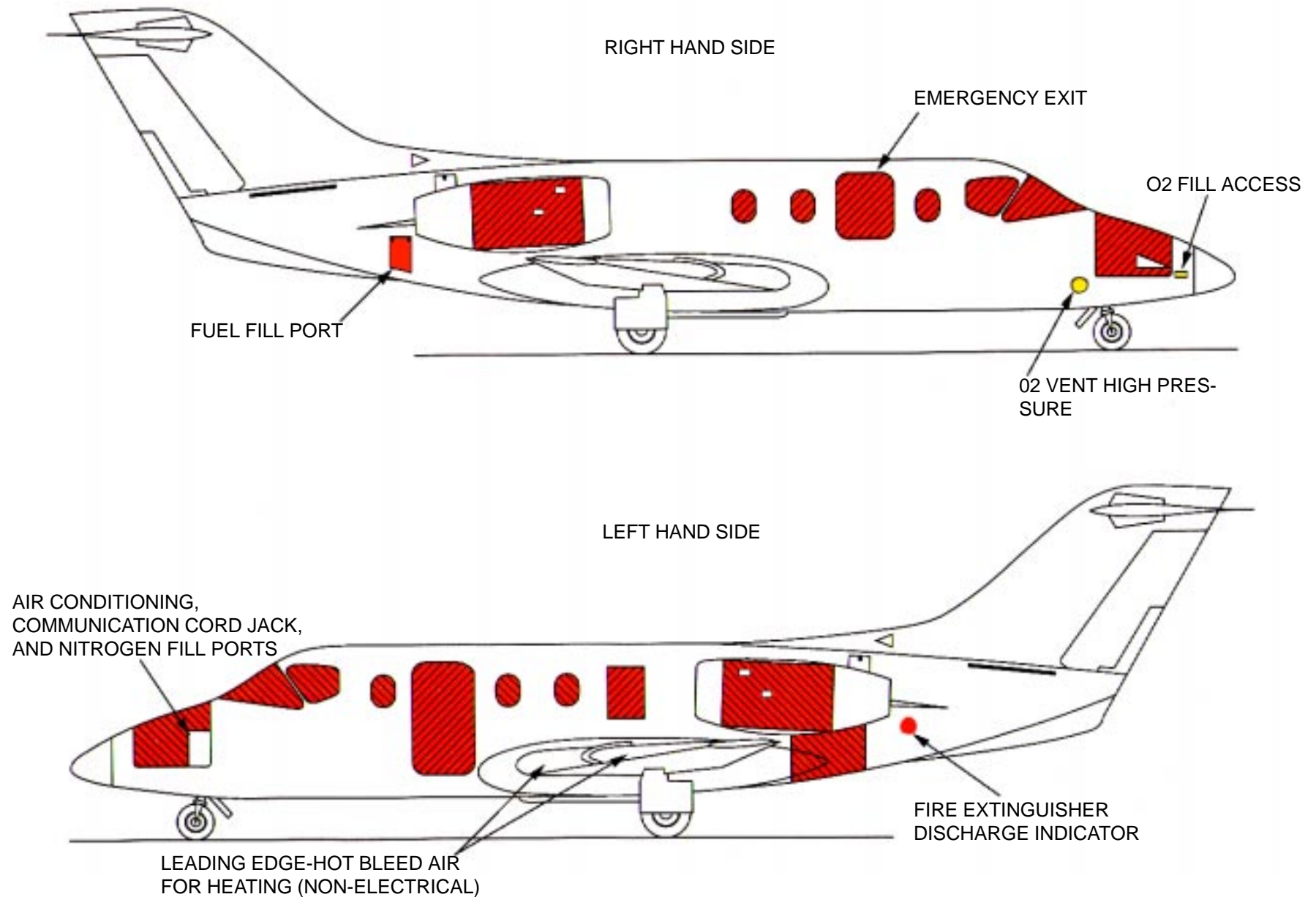
d. Illustrations located on right side of pages are coordinated with text by numerals and small letters depicting both paragraph and subparagraph on the page.

e. Each illustration is consistently colored and/or pattern keyed to highlight essential emergency rescue information.

f. Details are pulled directly from the illustration to highlight an area, thus eliminating unnecessary searching for desired information.

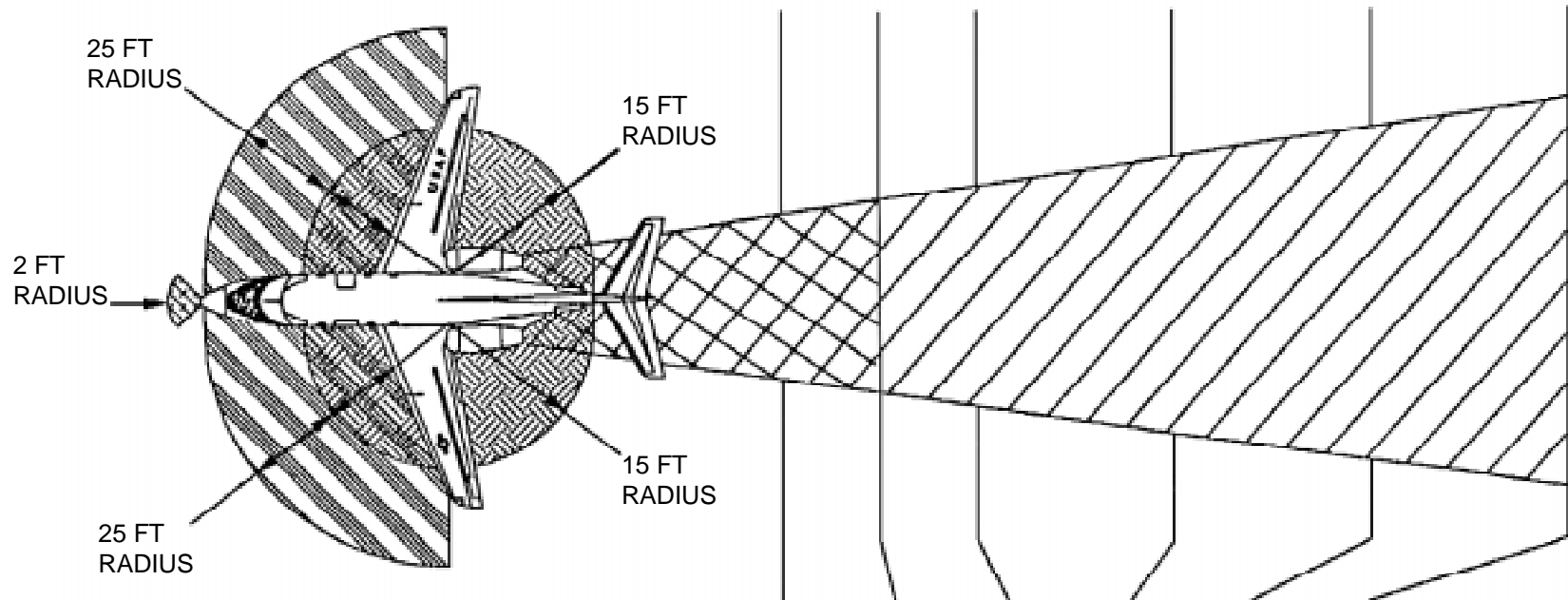
AIRCRAFT SKIN PENETRATION POINTS, FIRE ACCESS, AND SERVICING LOCATIONS

T-1A



AIRCRAFT DANGER AREAS AND HAZARD INFORMATION

T-1A



	DISTANCE FT.	0	20	30	40	60	80	100
IDLE THRUST	TEMPERATURE ⁰ F	650 ⁰	141 ⁰	91 ⁰				
	VELOCITY KNOTS	300	59	31				
TAKEOFF RATED THRUST	TEMPERATURE ⁰ F	1000 ⁰	250 ⁰	200 ⁰	160 ⁰	140 ⁰	130 ⁰	120 ⁰
	VELOCITY KNOTS	600	295	190	140	80	55	40



MAIN LANDING
GEAR TIRE
AVOIDANCE



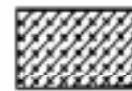
TAKEOFF
RATED
INTAKE



IDLE
THRUST
EXHAUST



TAKEOFF RATED
THRUST EX-
HAUST



RADAR
DANGER
AREA

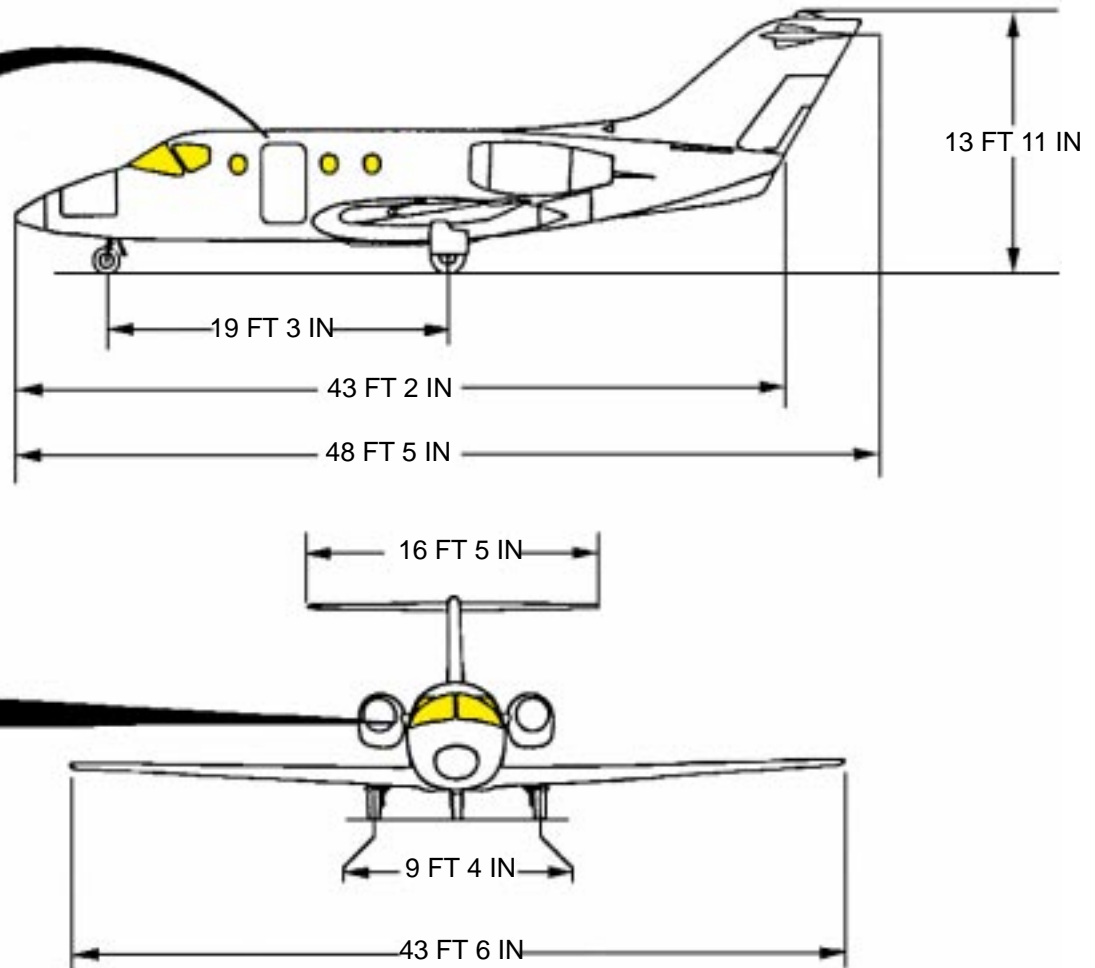
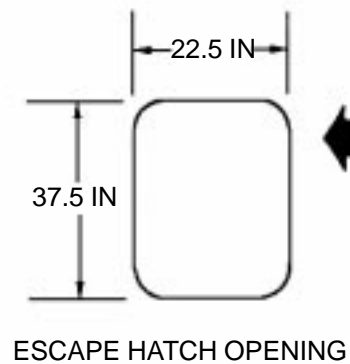
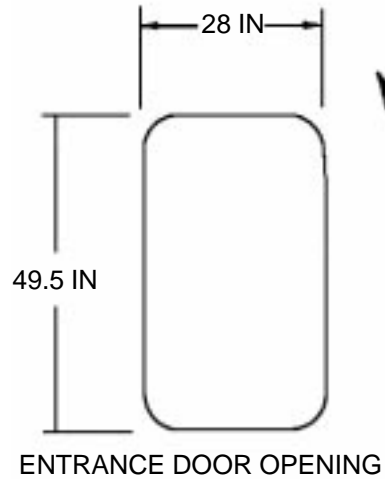
AIRCRAFT DIMENSIONS

INTERIOR AREAS

LENGTH 223 Inches

WIDTH 60 Inches

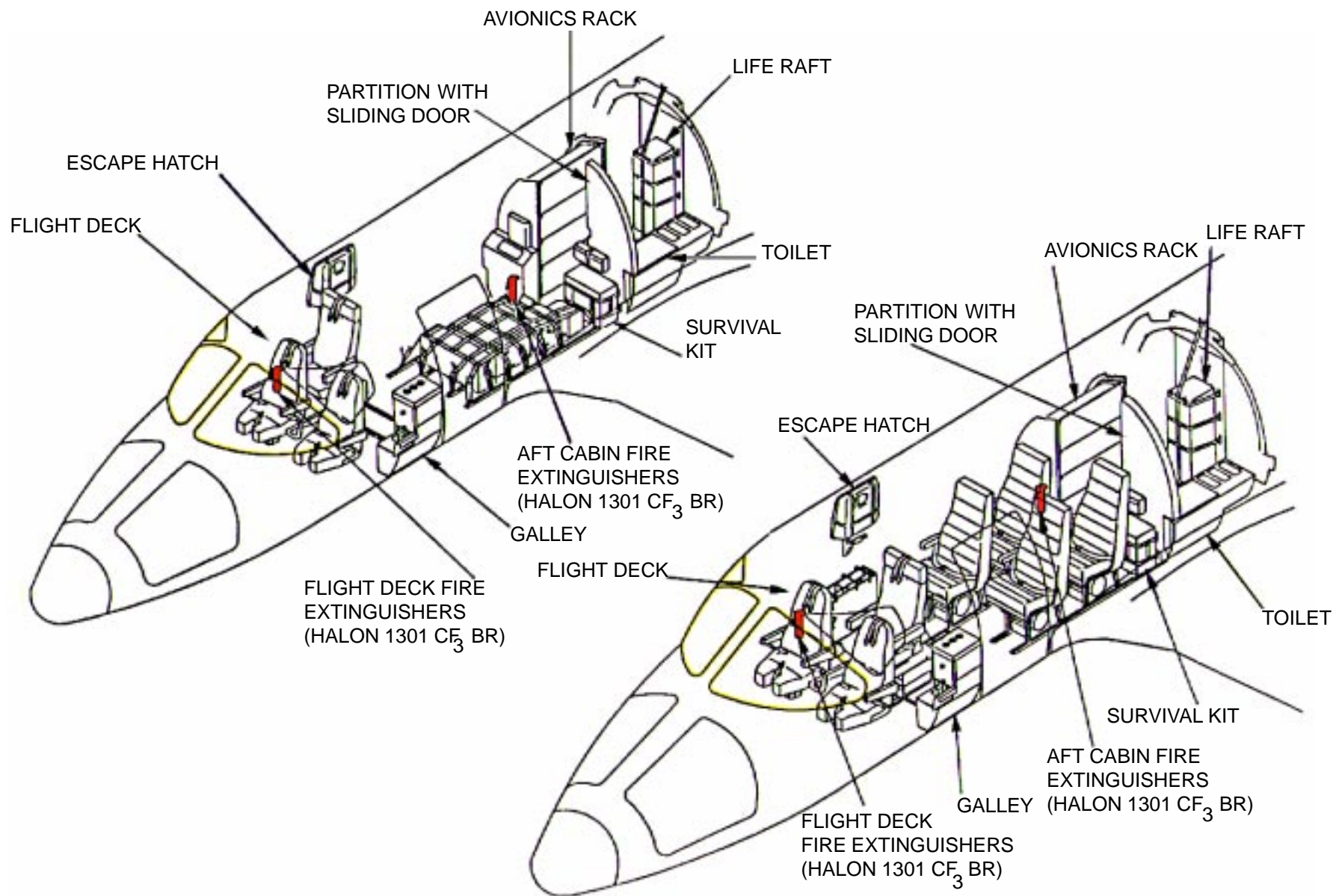
HEIGHT 57 Inches



CABIN ARRANGEMENTS

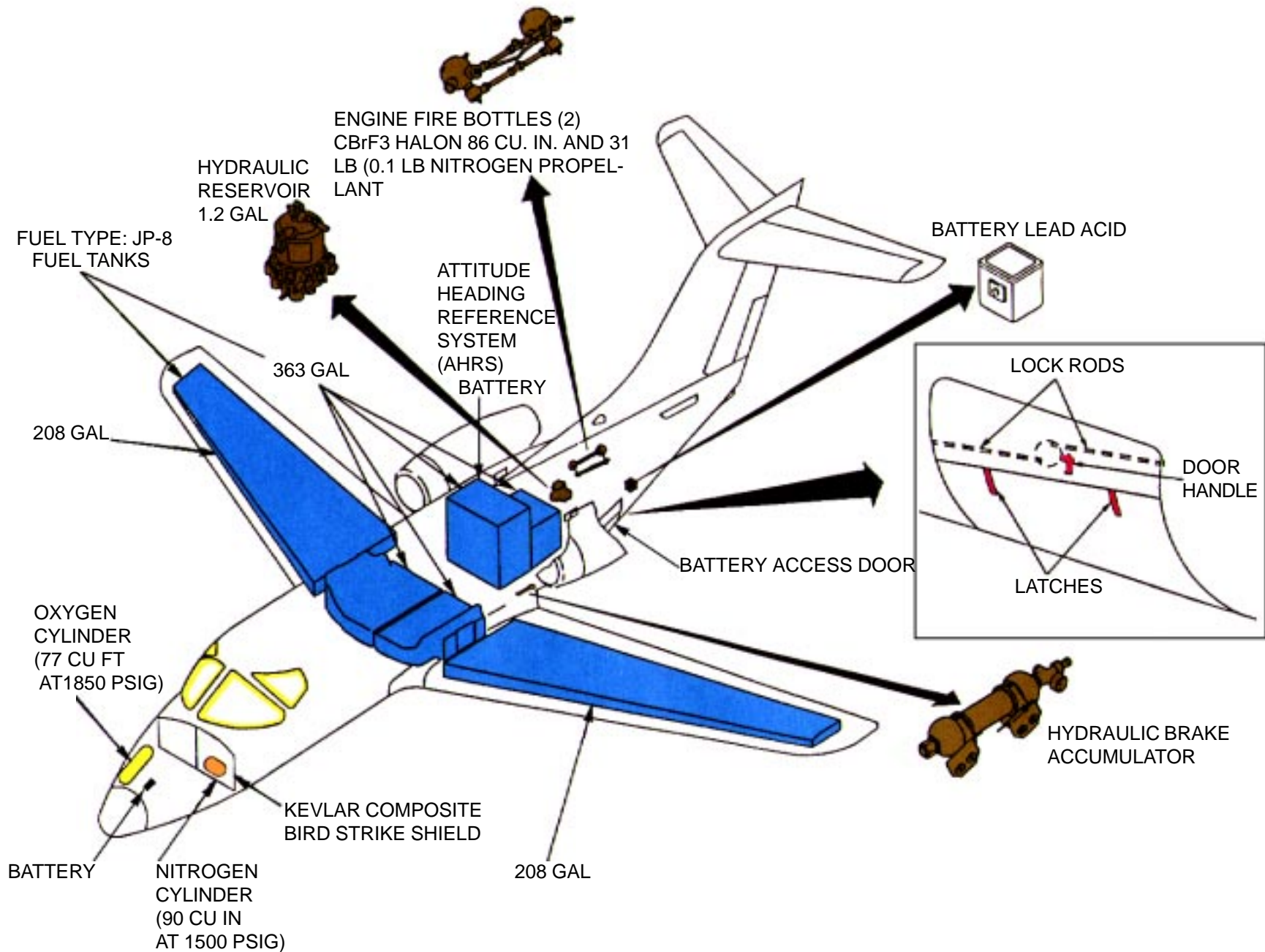
T-1A

1. NORMAL CAPACITY
 - a. Three (3) crewmembers.
 - b. Up to four (4) passengers.



AIRCRAFT HAZARDS

T-1A



SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw
Fire Drill II

T-1A

AIRCRAFT ENTRY

1. NORMAL ENTRY (EXTERNAL ONLY)

- a. Push release button, located beside main entrance door handle to release cabin pressure.
- b. Push left side of door handle to expose handle.
- c. Turn door handle one quarter turn clockwise to unlock main entrance door and pull door outward.
- d. Grasp step assembly or chord and pull outward.
- e. When steps start downward movement, support steps and lower to extended position.

2. EMERGENCY ENTRY (EXTERNAL ONLY)

- a. Push release lock, located right side fuselage front of wing.
- b. Pull handle to unlock escape hatch.

CAUTION

Do not place hatch in the pathway of escape.

- c. Push escape hatch inward to gain entry.

3. CUT-IN

- a. Cut-in normal and emergency entrances. If entrances are jammed, cut around fuselage windows.

1a
RELEASE
BUTTON

1b, 1c
MAIN ENTRANCE
DOOR HANDLE

2c
CHORD

1d
STEP
ASSEMBLY

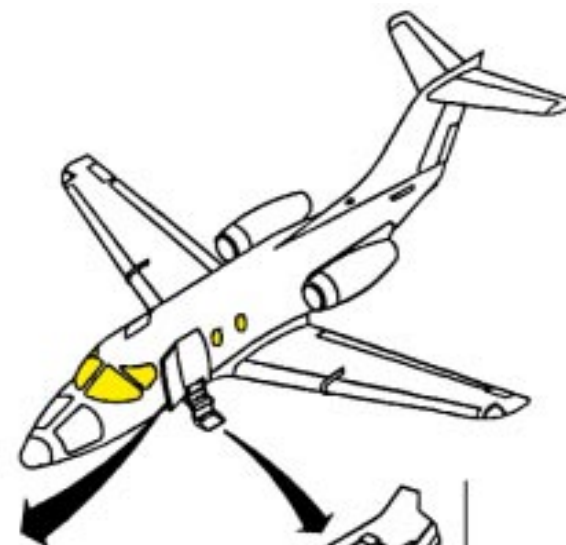
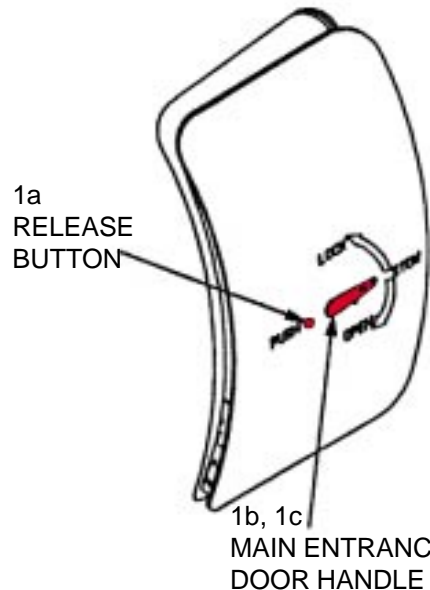
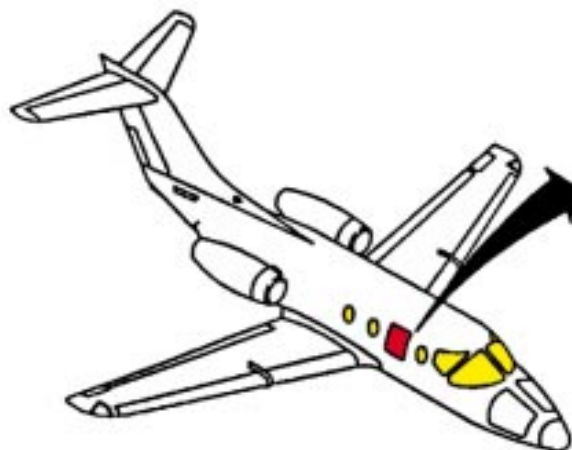
2a
PUSH
LOCK

1e
STEP
ASSEMBLY
IN EXTENDED
POSITION

EMERGENCY EXIT

1. PUSH LOCK
2. PULL HANDLE
3. PUSH IN DOOR

2a
ESCAPE
HATCH
HANDLE

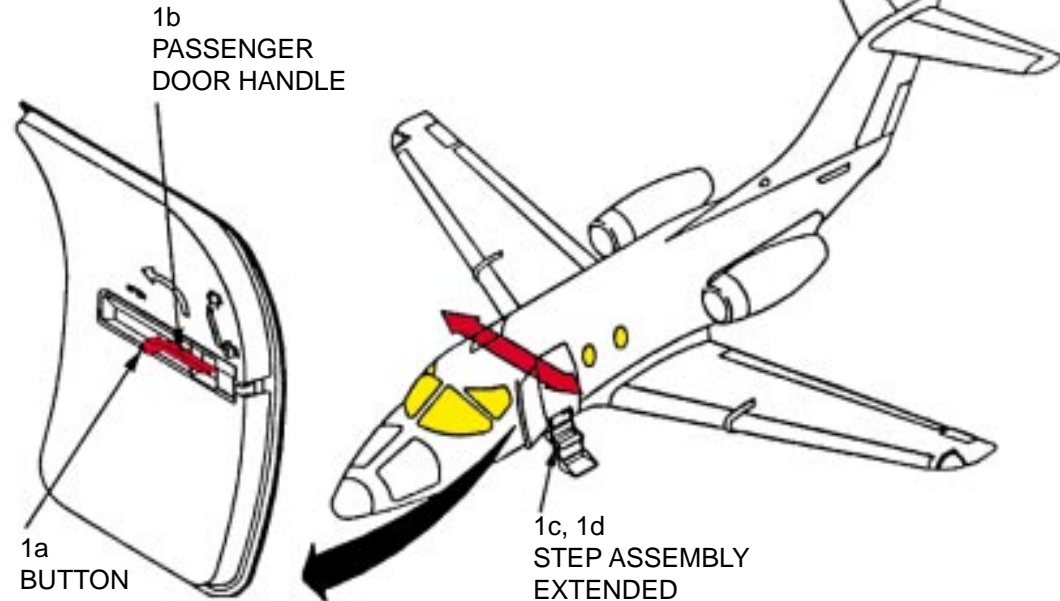


AIRCRAFT EXIT

T-1A

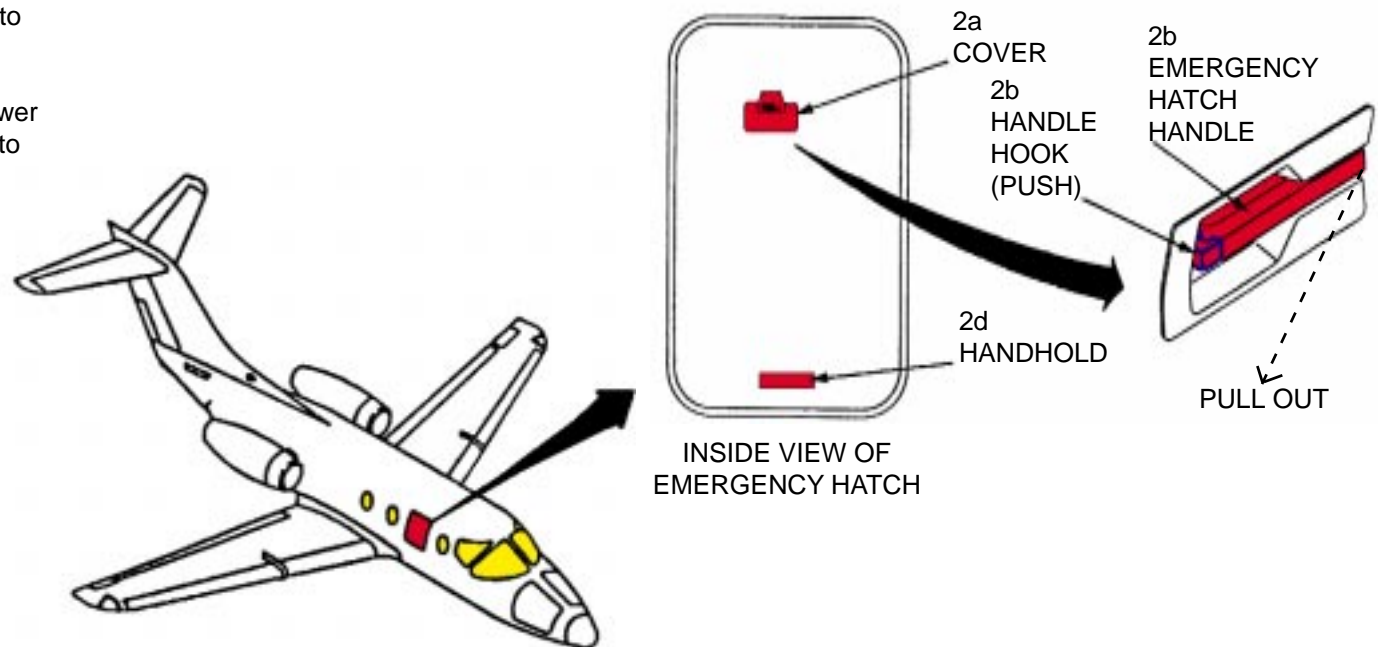
1. NORMAL EXIT (INTERNAL ONLY)

- Push button, located on door handle of the main entrance door, to release door handle.
- Turn door handle, located on main entrance door, counterclockwise to unlock door.
- Push door outward.
- Push step assembly outward.
- Support steps and lower to extended position.



2. EMERGENCY EXIT (INTERNAL ONLY)

- Pull cover free. Cover is located on upper center portion of the emergency hatch.
- Push handle hook, located under cover, with thumb and pull handle.
- Lift top of emergency hatch to extend into aircraft.
- Lift hatch using handhold, located on lower center portion of the emergency hatch, to clear hinges.
- Remove hatch to an area that will not impede egress.



ENGINE SHUTDOWN

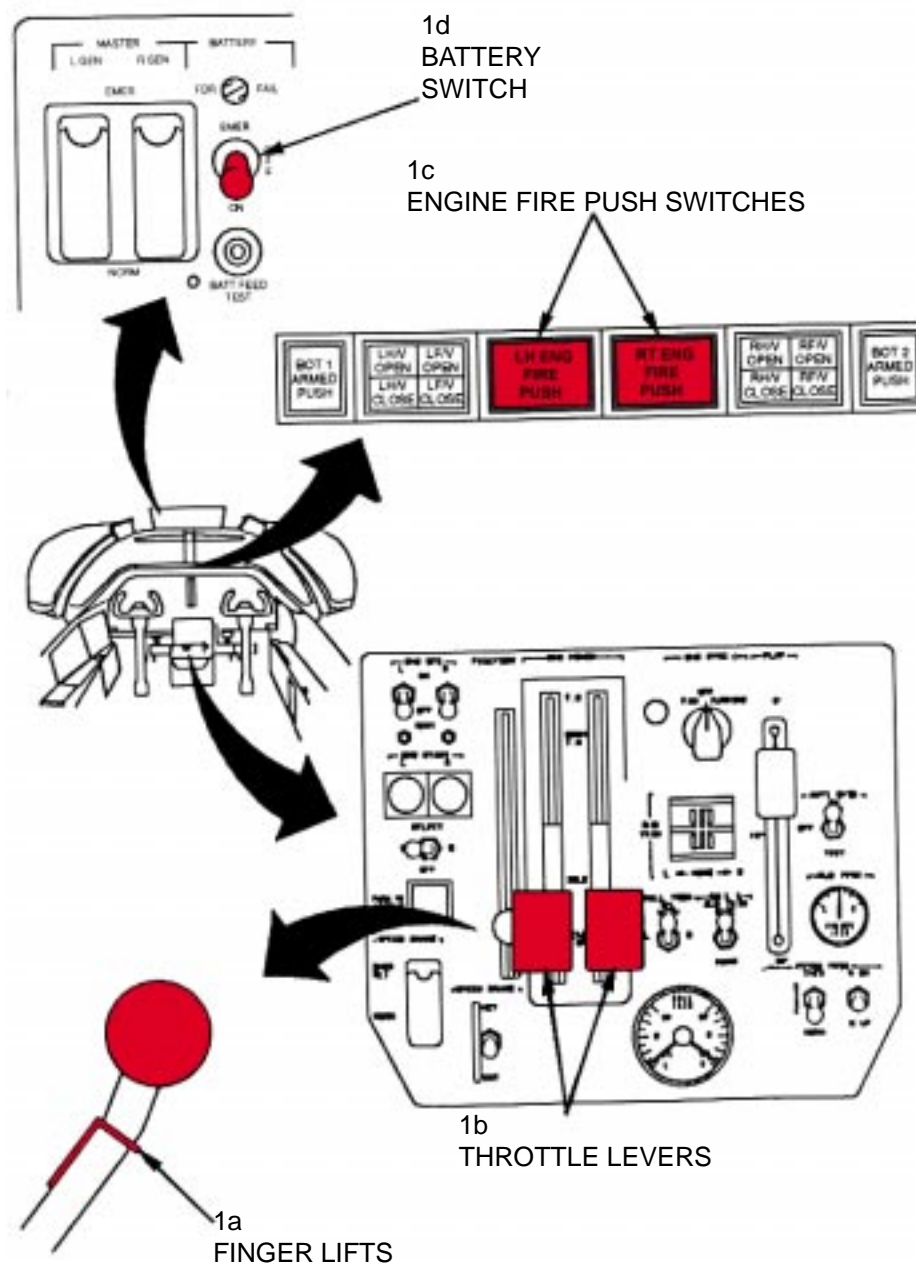
1. ENGINE SHUTDOWN

- Raise two finger lifts, located below throttle knobs on center console.
- Retard throttle levers, located on center console, to aft/down to the CUT OFF position.

NOTE:

If engines are to be shutdown using the ENG FIRE PUSH switches, located top center of shroud panel, the battery switch must be ON or extinguishment system can not be activated.

- If engines fail to shutdown, raise the protective covers then push both ENG FIRE PUSH switches, located top center of the shroud panel, to activate fire extinguisher agent.
- Place battery switch to OFF position, located on overhead console upper left side.



AIRCREW EXTRACTION

1. AIRCREW EXTRACTION

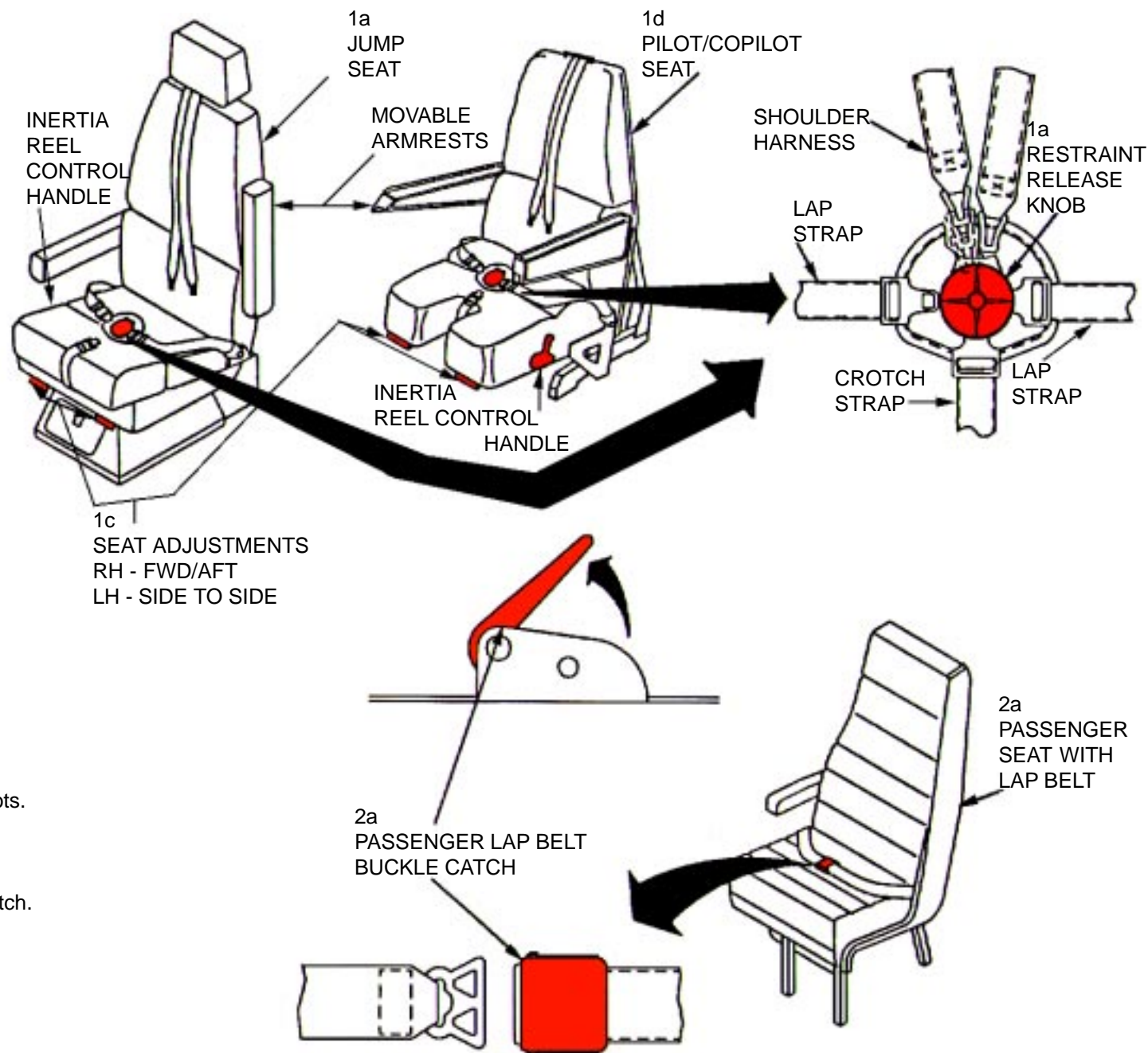
NOTE:

Jump seat, located behind pilot's seats, may block access to the pilot's seats. Inertia reel control handle can be cycled to move or stabilize occupant prior to extraction. Move forward to lock, aft to unlock.

- a. If jump seat is occupied, release occupant from restraint system by turning buckle release knob a quarter turn in either direction.
- b. Position jump seat's left armrest up to facilitate removal then remove and extract occupant.
- c. Release jump seat by pulling lever on forward seat bottom.
- d. Remove and stow jump seat on right side of cabin.
- d. For pilot seats, release five point restraint system by turning the buckle release knob a quarter turn in either direction.
- e. Raise applicable armrest to facilitate removal then remove and extract pilots.

2. PASSENGER EXTRACTION

- a. Release lap belt by raising buckle catch.

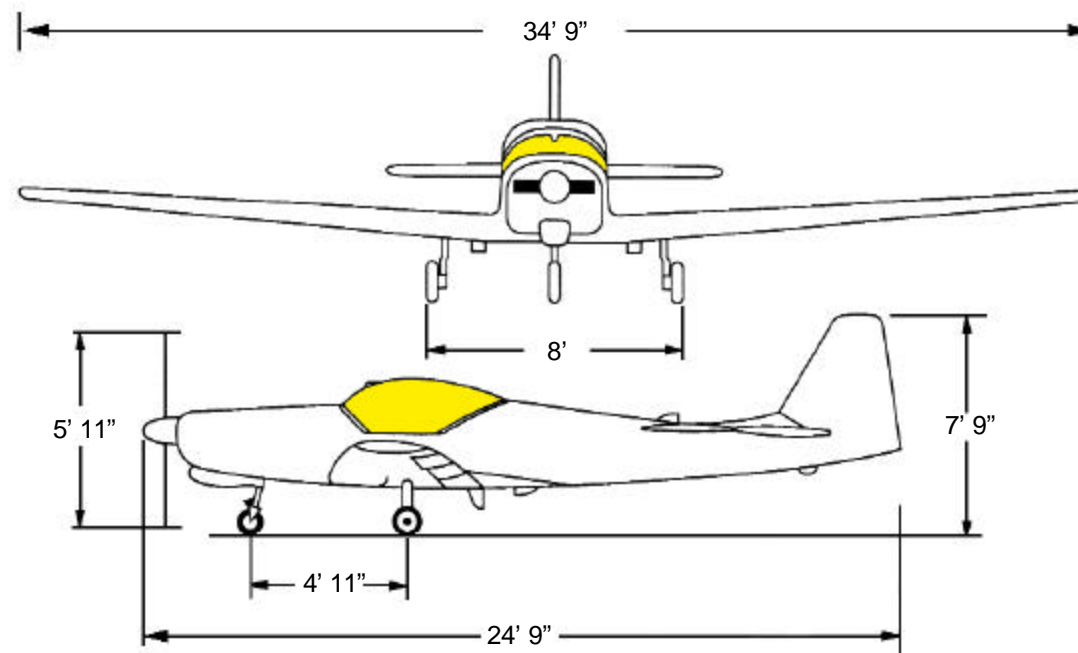
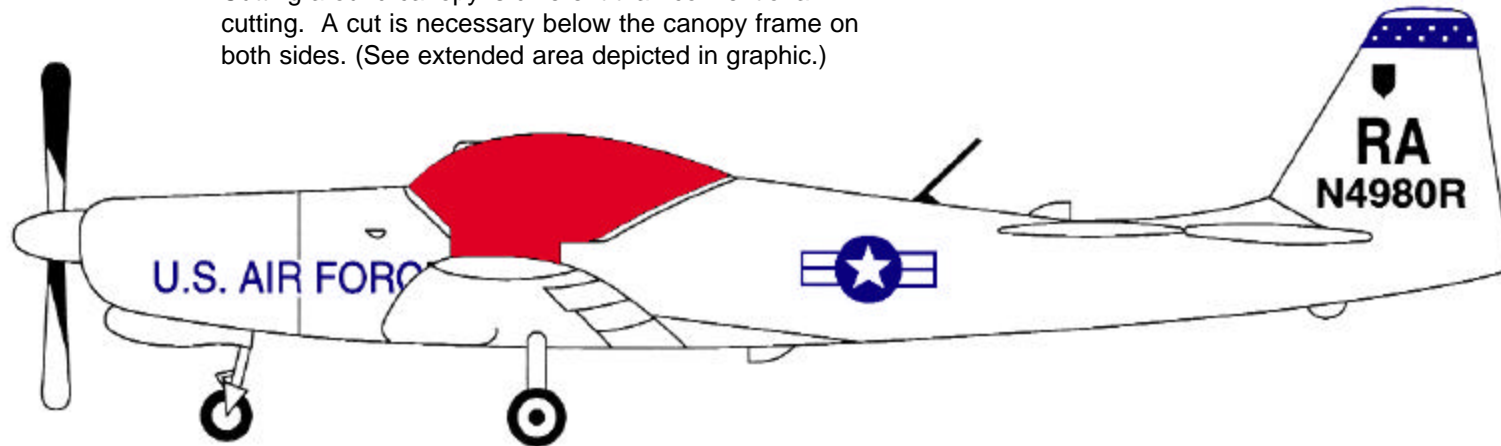


AIRCRAFT CANOPY CUT-IN AND DIMENSIONS

T-3A

NOTE:

Cutting around canopy is different than conventional cutting. A cut is necessary below the canopy frame on both sides. (See extended area depicted in graphic.)

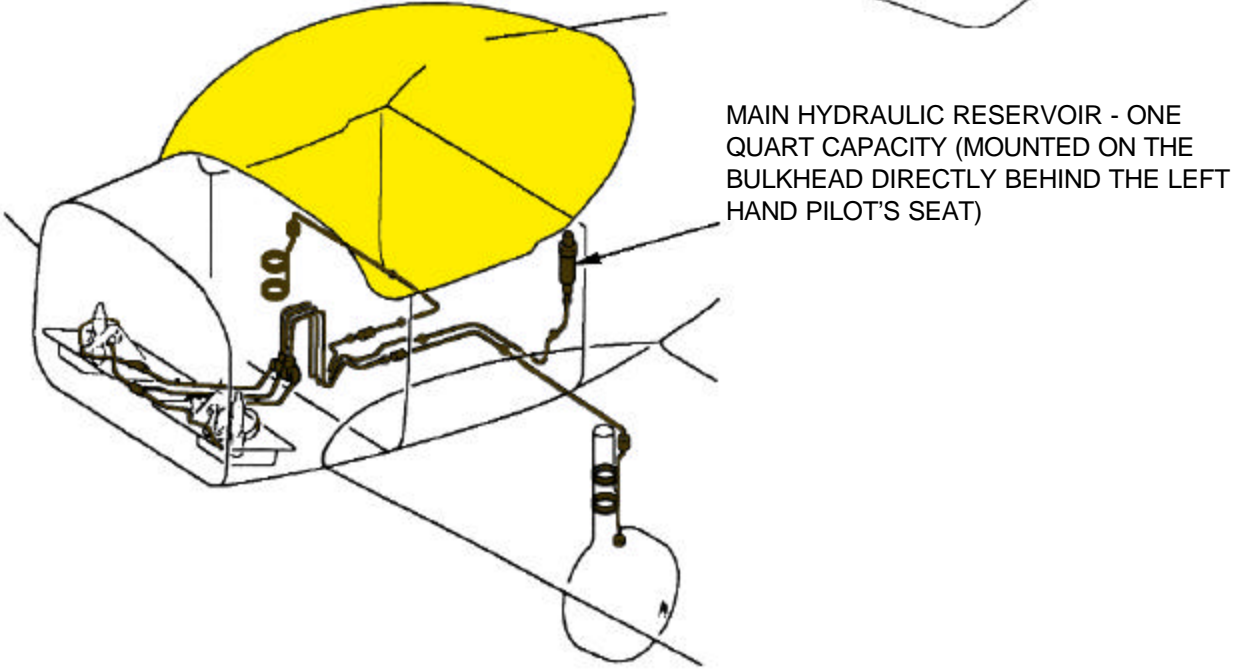
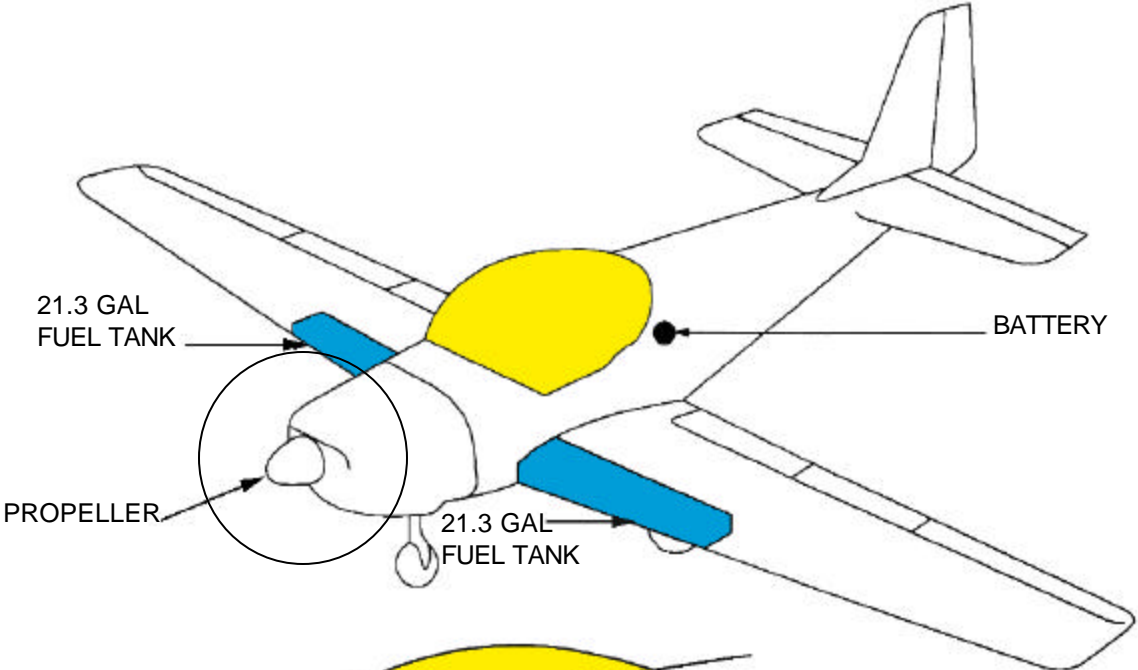


NOTE:
 Fuel lines run from forward portion of wing tanks along inside of cockpit wall (floor level - both sides) to selector valve and on through right side of firewall.

MATERIALS SYSTEM DESIGNATION IS FIBER/RESIN:

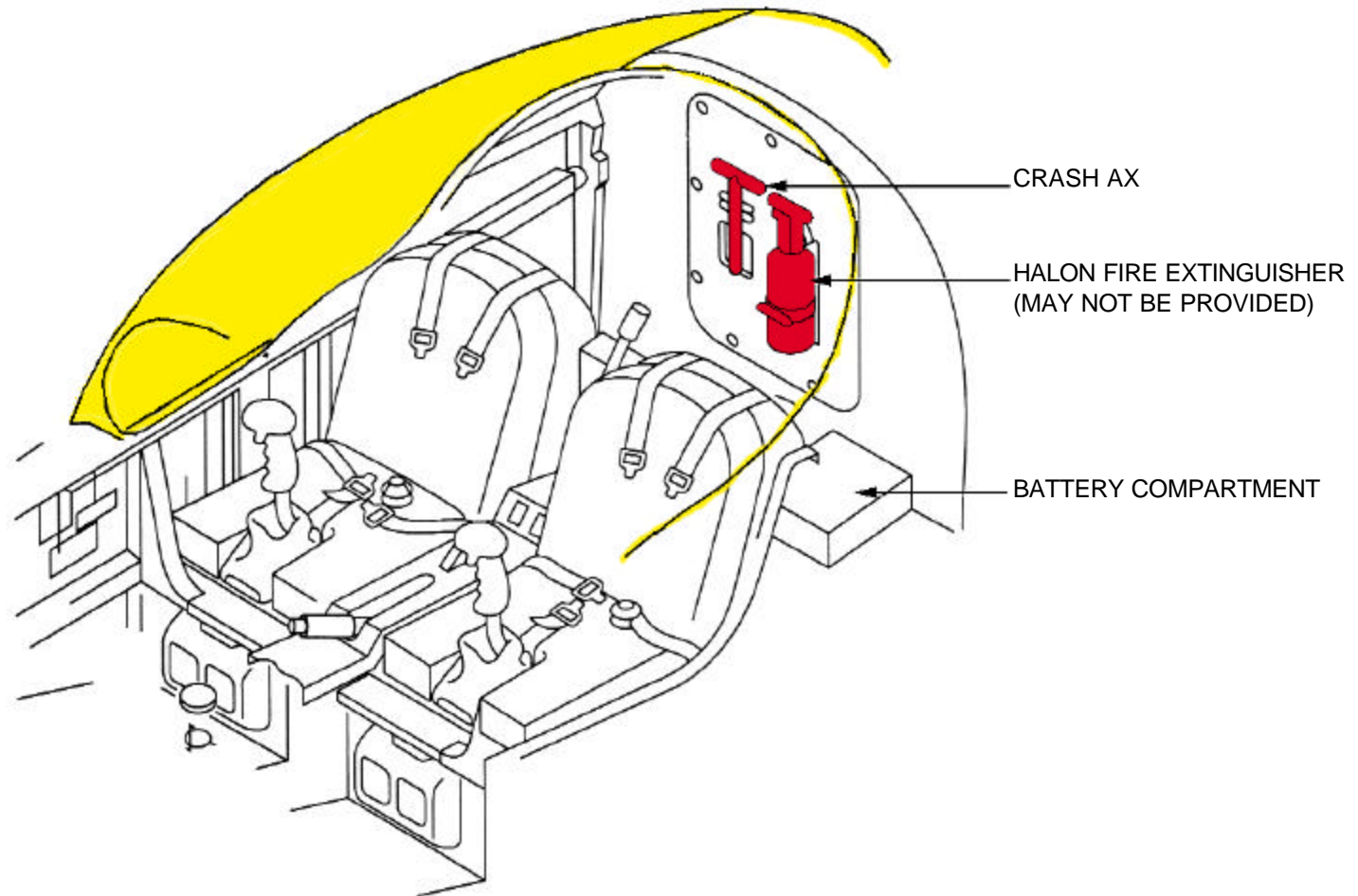
C = CARBON
 GL = GLASS
 E = EPOXY

LOCATION	SYSTEM
ENGINE COWLING	G/C/E
AIR INTAKE BOX	G/E
FUSELAGE LONGERON	G/E
SPAR CAP	G/E
WINDSCREEN	C/E
CANOPY HOOP	C/E



COCKPIT ARRANGEMENT

NORMAL CAPACITY
Two (2) Crewmembers

T-3A

SPECIAL TOOLS/EQUIPMENT
Power Rescue Saw
Fire Drill II

AIRCRAFT ENTRY

1. NORMAL ENTRY

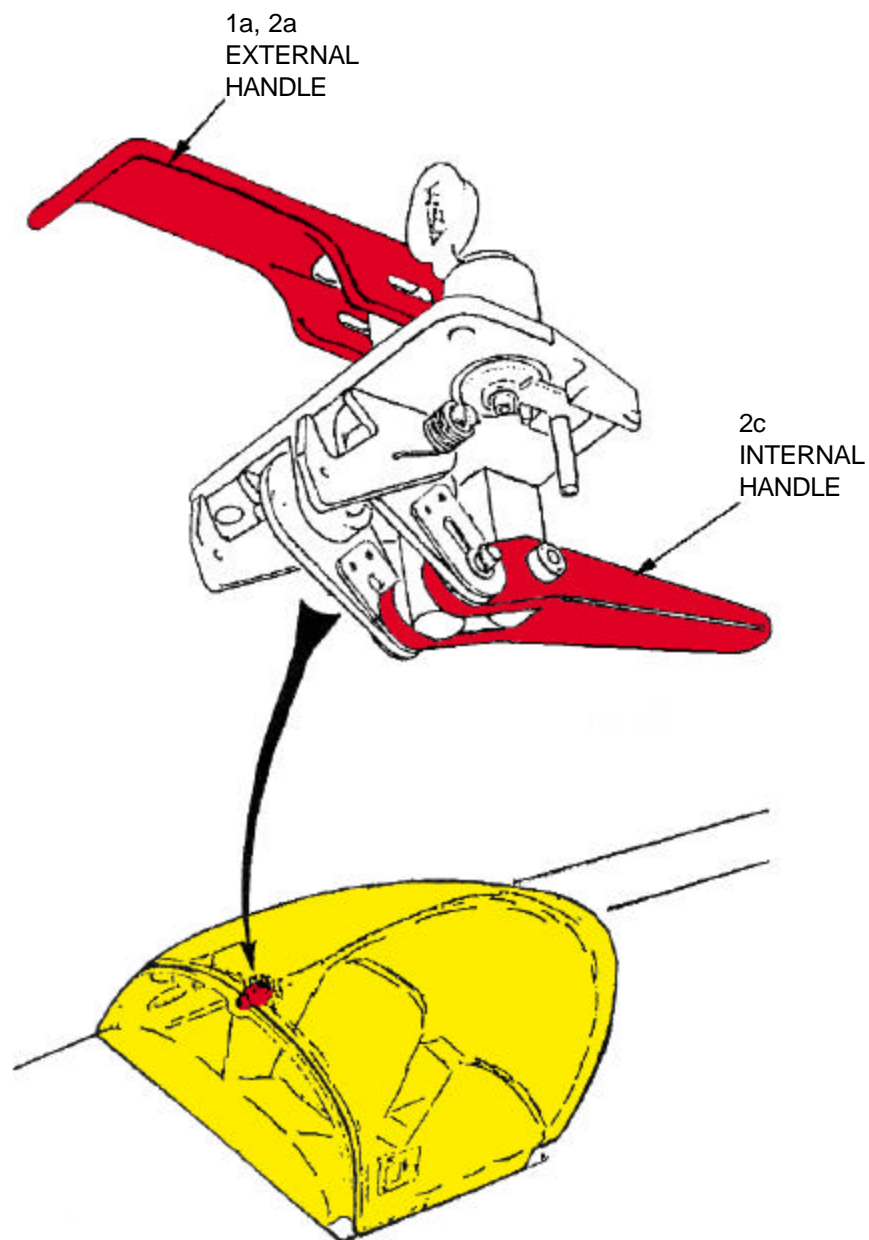
- a. Pull external handle, located forward center of canopy and windshield, up to unlock canopy.
- b. Slide canopy aft.

2. EMERGENCY ENTRY

- a. Pull external handle, located forward center of canopy and windshield, up to unlock canopy.
- b. Slide canopy aft.
- c. If external handle is damaged or broken off, access internal handle, push handle down and slide canopy aft.

3. CUT-IN

- a. Cut along canopy frame on all four sides.



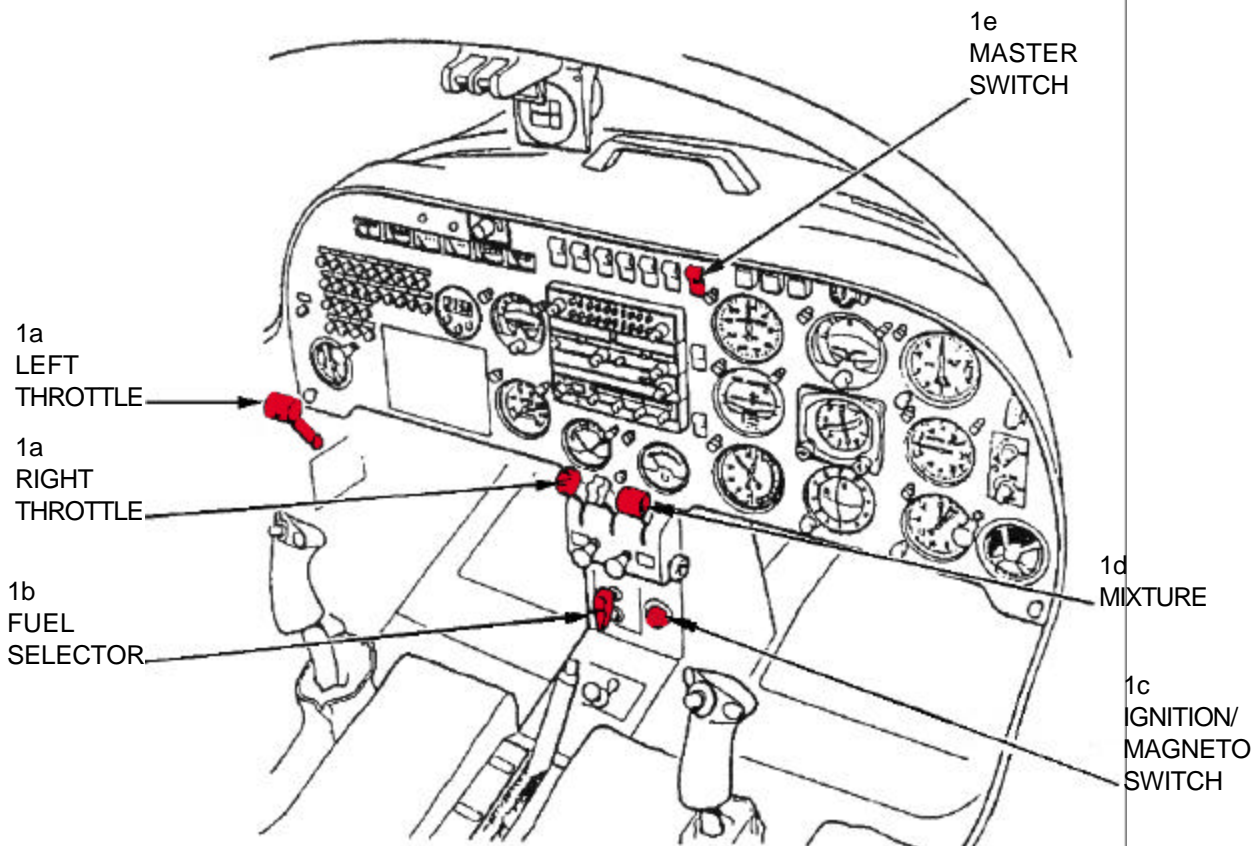
ENGINE SHUTDOWN

1. ENGINE SHUTDOWN

NOTE:

DO NOT OPERATE MASTER SWITCH until procedures are completed. Electrical power is needed for various switches to function properly.

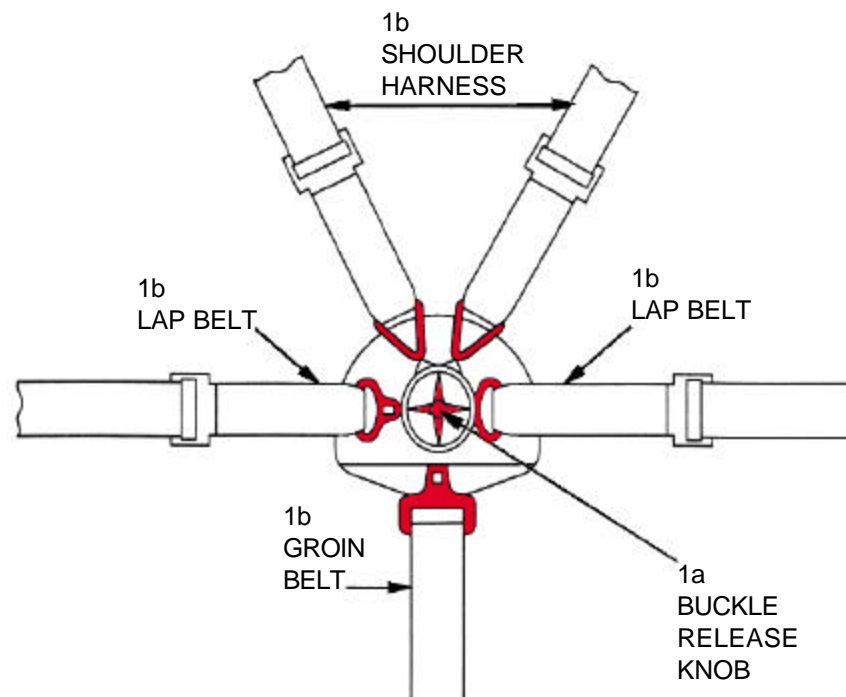
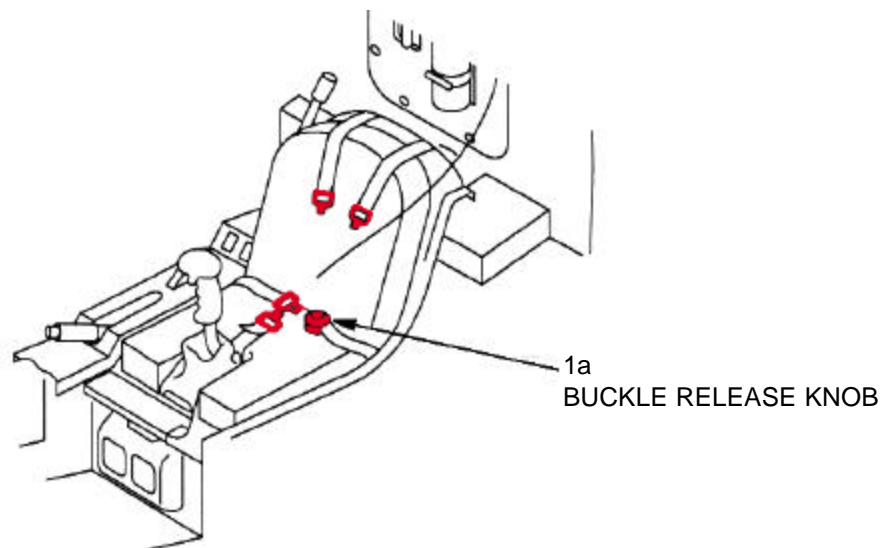
- a. Retard throttle lever, located on center console, to aft/down CUT-OFF position.
- b. Turn fuel selector switch, located on center console, fully counterclockwise to OFF.
- c. Turn magnetos (keyed switch), located on center console, fully counterclockwise to OFF.
- d. If time permits, retard mixture lever, located on center console, to aft/down CUT-OFF position.
- e. Turn master switch, located on upper center of instrument panel, to OFF to remove electrical power.



AIRCREW EXTRACTION

1. AIRCREW EXTRACTION

- a. Turn buckle release knob, located at center of restraints on occupant, to release restraint system.
- b. Clear shoulder harnesses, lap belts, and groin belt from crewmembers to prevent entanglement during extraction.
- c. Extract crewmembers carefully. Use Kendrick Kit or spine board if applicable.



AIRCRAFT HAZARDS

FLAMMABLE FLUIDS AND HAZARDOUS MATERIALS

NOTE:

The T-6A is a low wing monoplane with a pressurized, two place, stepped, tandem-seating cockpit under a side opening canopy. Engine is a Pratt & Whitney PT6A-68 turboprop.

ENGINE FUEL:

JP-5, JP-8, JET A, JET A1, AND JET B

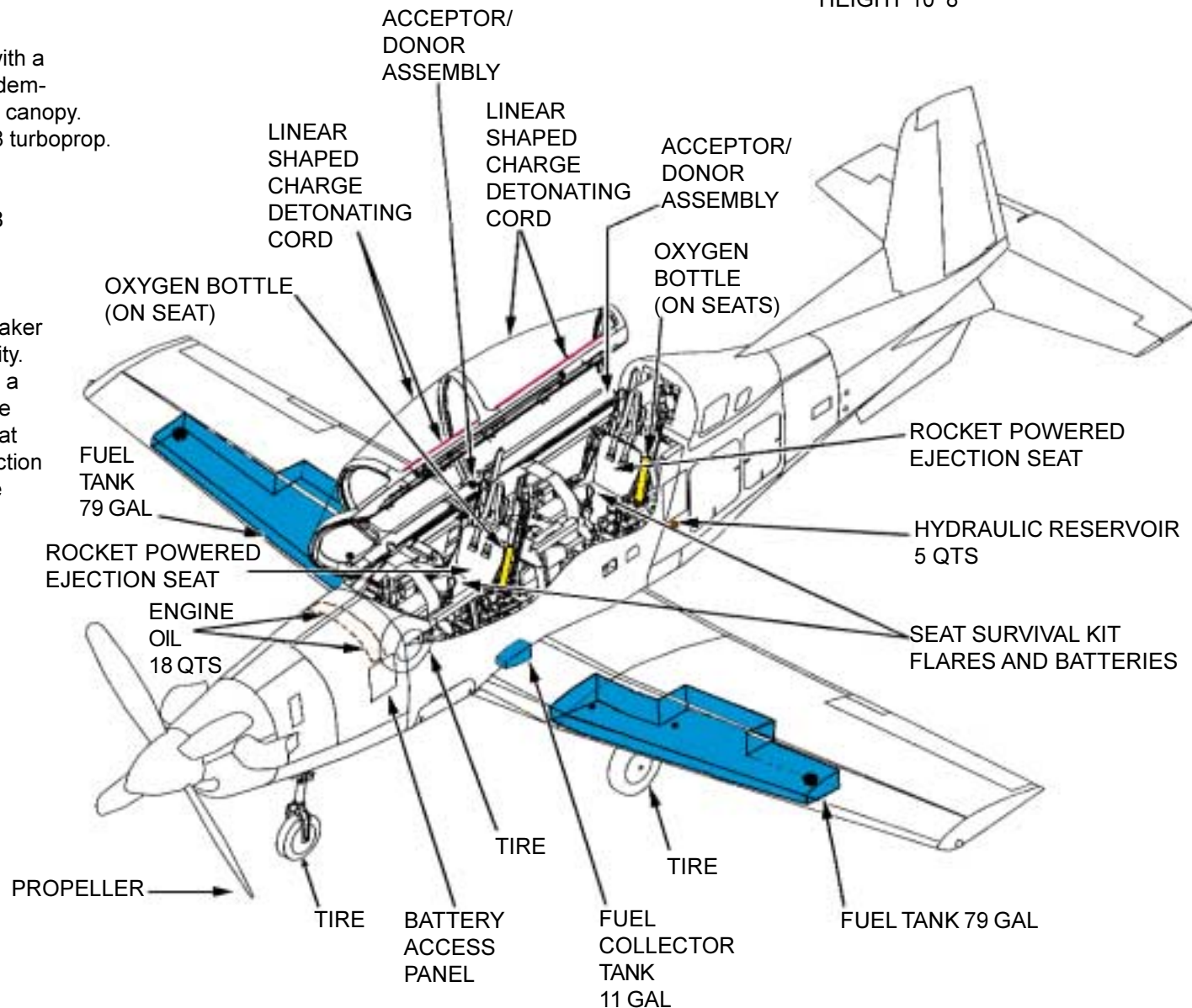
WARNING

Aircraft is equipped with two Martin-Baker ejection seats with zero-zero capability. The ejection system is equipped with a Command Select Valve located on the forward instrument panel of the aft seat occupant which is used to select ejection sequence. Always work around these components to insure a safe rescue.

AIRCRAFT DIMENSIONS
WINGSPAN 33' 5"
LENGTH 33' 4"
HEIGHT 10' 8"

T-6A

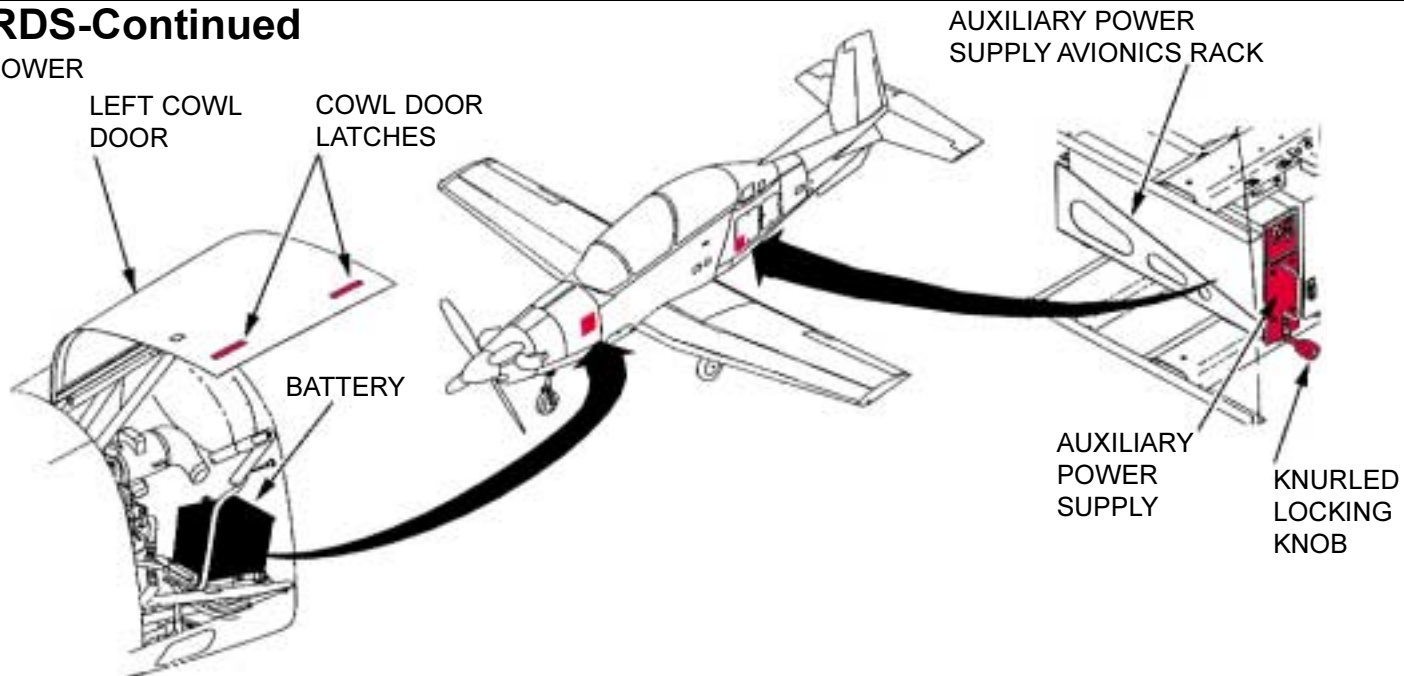
T.O. 00-105E-9



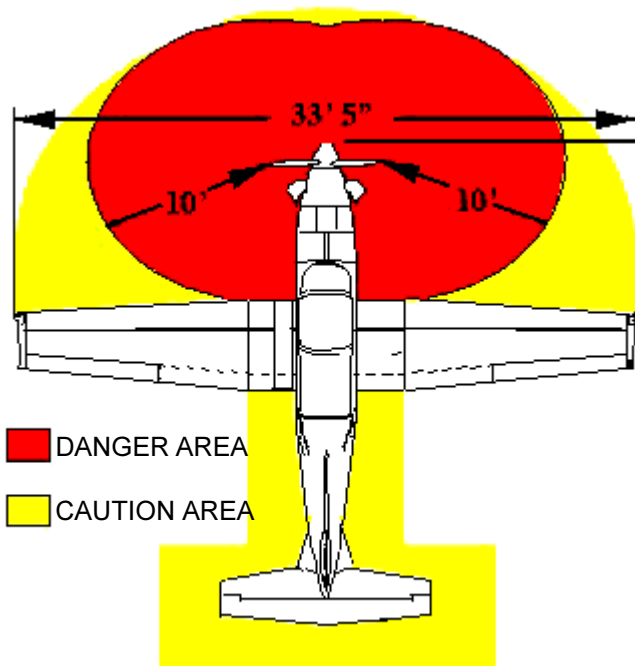
AIRCRAFT HAZARDS-Continued

BATTERY AND AUXILIARY POWER SUPPLY LOCATION

BATTERY:
ONE 24 VOLT

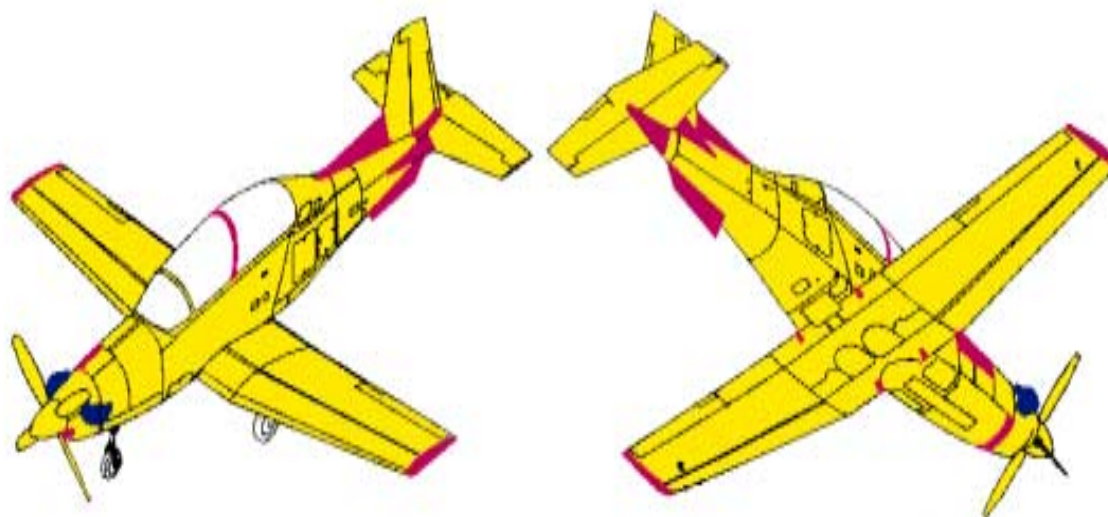


PROPELLER DANGER AND PROPELLER WASH CAUTION AREAS



■ DANGER AREA
■ CAUTION AREA

AIRFRAME MATERIALS



T-6A

SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw
Crash Ax

T-6A

AIRCRAFT ENTRY

1. NORMAL ENTRY

NOTE:

Approach aircraft from left wing. Enter aircraft from left side of fuselage where the canopy open handle is located.

- a. Push unlock button, located forward of canopy open handle, to unlock canopy.
- b. Rotate canopy open handle clockwise to the open position.

NOTE:

Canopy is secure when in the full open position.

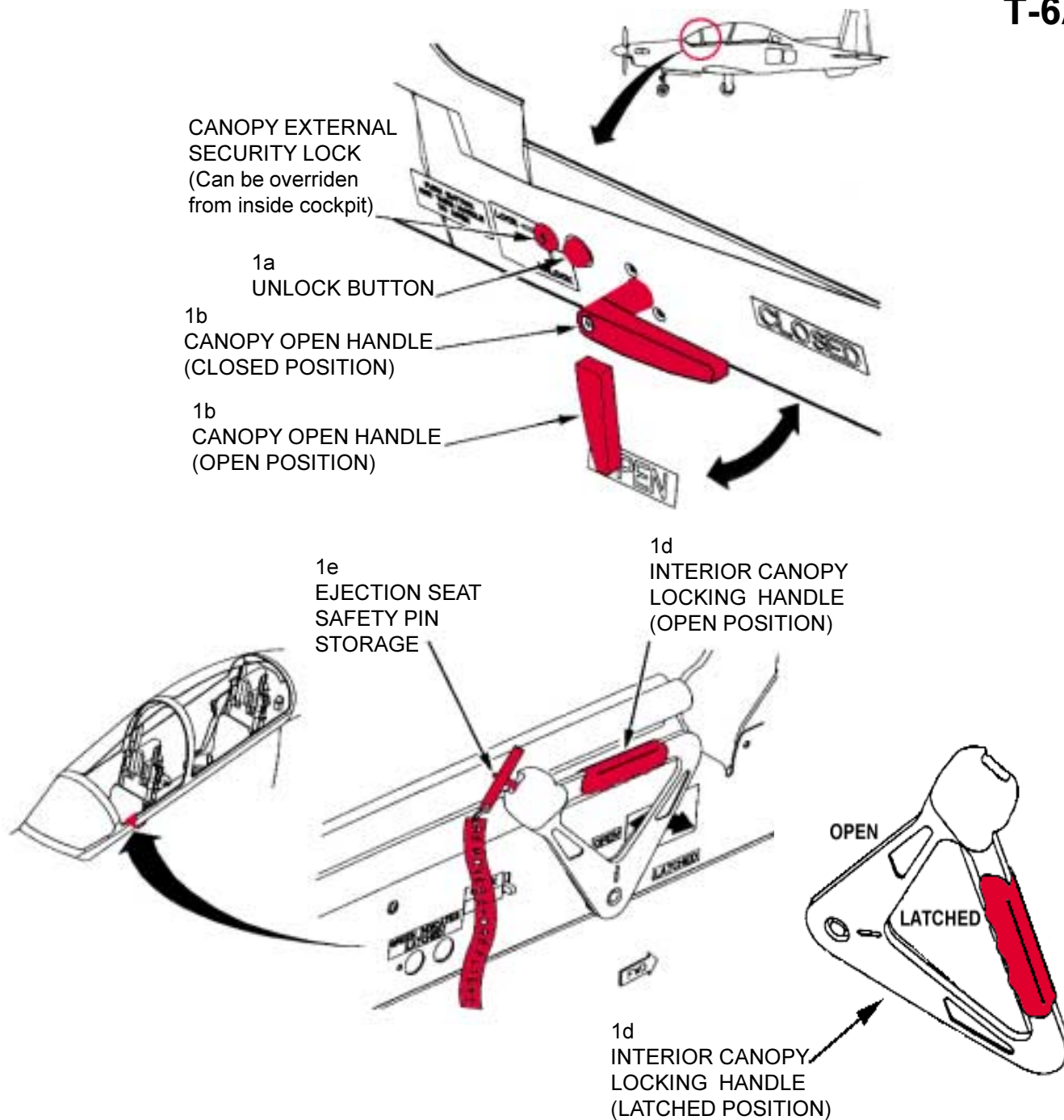
- c. Lift canopy up using the open handle.
- d. Rotate the interior canopy locking handle, located on the left canopy sill, to the CLOSED/LATCHED position.
- e. Normally, the ejection seat safety pin is stored in the internal canopy locking handle. Handle can be rotated with pin installed.

2. INTERNAL CANOPY LOCK HANDLE OPERATION

NOTE:

The following is for information only and not part of the entry procedures.

- a. Rotate the interior canopy locking handle, located on the left canopy sill, to the CLOSED/LATCHED position.



AIRCRAFT ENTRY-Continued

2. EMERGENCY ENTRY

NOTE:

Canopy fracturing system (CFS) is installed.
Canopy does not jettison.

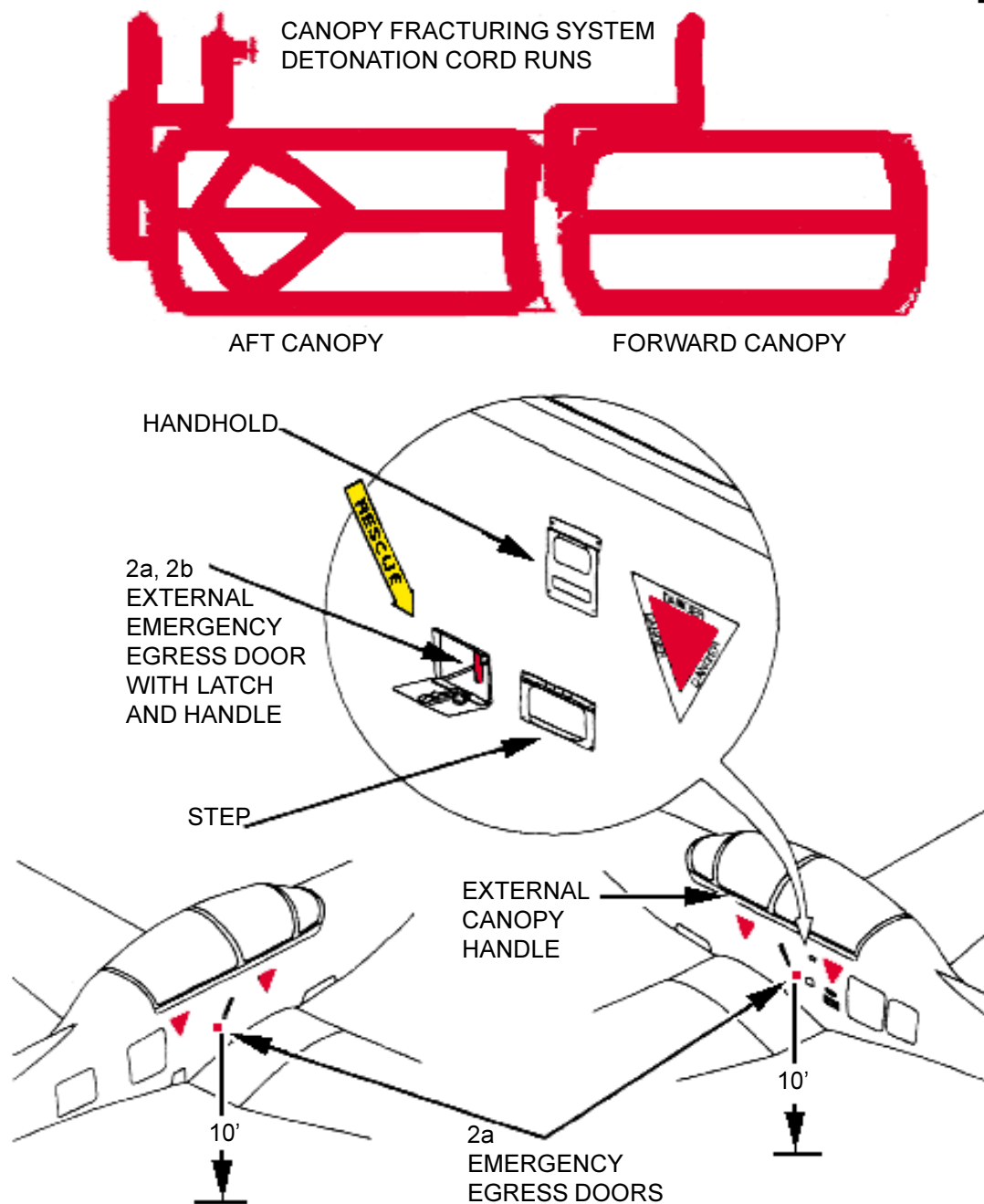
WARNING

Detonation cord is glued to inside of canopy. Face away from aircraft when initiating system due to possibility of flying fragments of canopy plexiglass.

- Open external emergency egress door, located near either wing trailing edge on side fuselage.
- Push latch on egress door, located on either side fuselage under aft canopy sill.
- If CFS safety pin is installed, remove pin and then remove "T" handle by pulling outward and aft.
- Pull "T" handle and lanyard out to full extension of 10 feet.
- Face away and pull sharply to initiate canopy fracturing system. Both transparencies will fracture and fall away.

3. CUT-IN

- If CFS system is inoperative, use power rescue saw or crash ax to gain cockpit entry.



T-6A

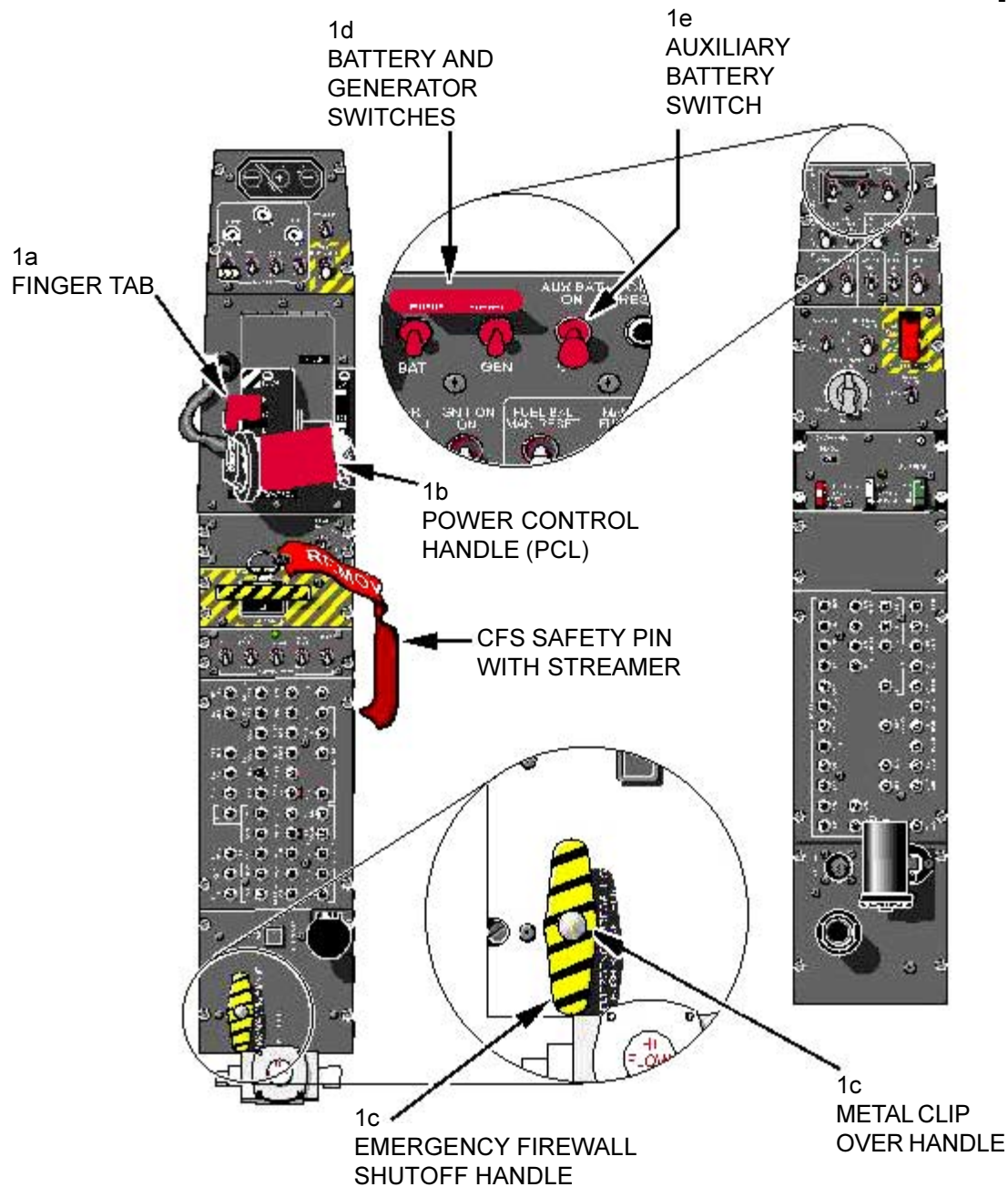
ENGINE SHUTDOWN

1. ENGINE SHUTDOWN

NOTE:

Engine shutdown is accomplished in the forward cockpit only. Aircrew members oxygen masks should be removed prior to shutdown. Oxygen supply to aircrew members is shut off when aircraft has been shutdown.

- Move power control lever (PCL) to idle and raise finger tab, located on the forward side of throttle handle.
- Retard power control handle (PCL), located on left console, to full aft OFF position.
- Remove metal clip and pull emergency firewall shutoff handle, located on left aft control panel of forward cockpit, to the UP position.
- Place battery and generator gang switches, located on right horizontal control panel, aft or down to OFF position.
- Lift up and move auxiliary battery switch, located right side battery/generator switch on right console, aft to OFF position.



SAFETYING EJECTION SEAT AND CANOPY FRACTURING SYSTEM

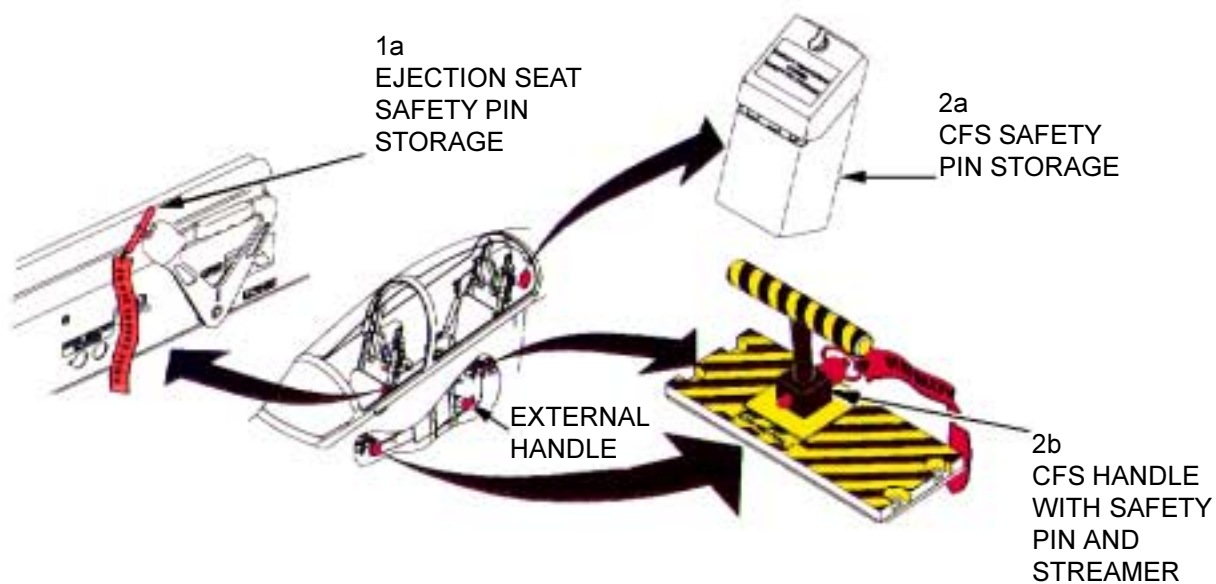
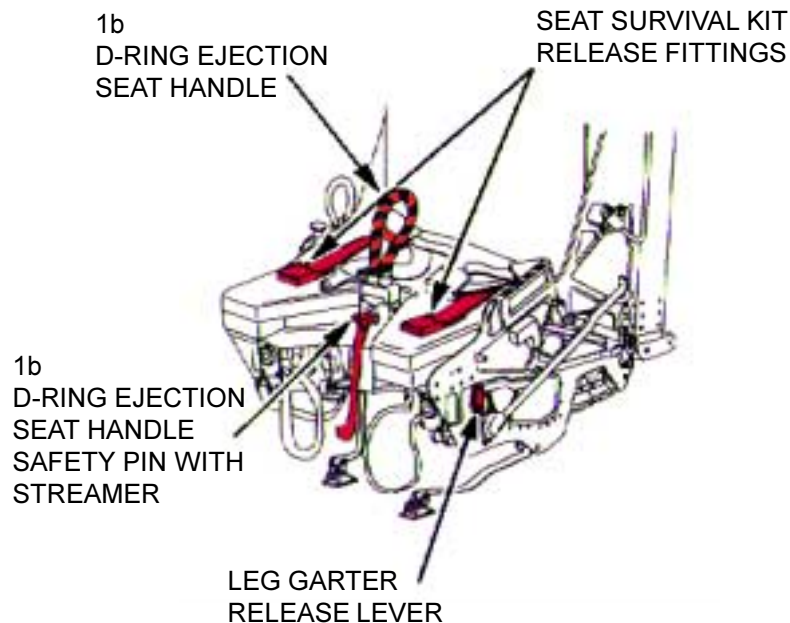
T-6A

1. SAFETYING EJECTION SEAT

- a. Ejection seat safety pins are normally stored in the canopy unlock handle, located on the left canopy sill.
- b. Insert seat safety pin into D-ring ejection seat handle, located front center of both seats to prevent inadvertent ejection during extraction of crew members.

2. CANOPY FRACTURING SYSTEM (CFS)

- a. CFS safety pins are stored in the pin storage box on the aft cockpit bulkhead.
- b. Insert CFS safety pins in the CFS handles located on the left consoles in both cockpits.



AIRCREW EXTRACTION

1. AIRCREW EXTRACTION

WARNING

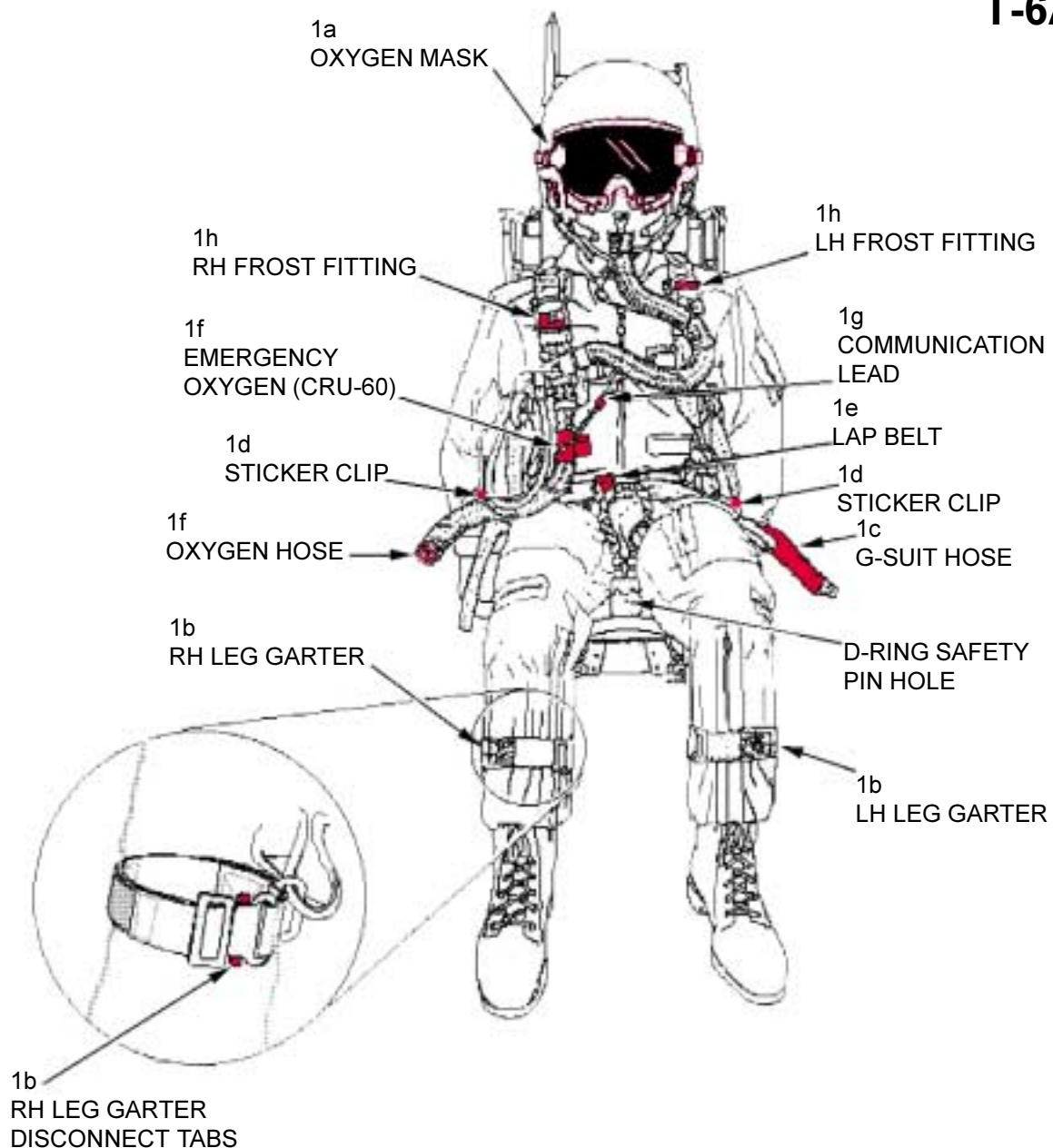
Insure safety pins are installed in D-ring ejection seat handle and CFS handle to prevent inadvertent ejection and detonation of the canopy fracturing system.

- a. Remove oxygen mask, if not previously done.
- b. Disconnect quick release connector on right and left leg garters at crew member's shins by squeezing tabs inward.
- c. Disconnect anti-G suit connection, located on left side of crew member, by pulling apart.
- d. Disconnect survival kit sticker clips from left and right torso harness V-rings.
- e. Unlatch lap belts connection and lay lap belts aside.
- f. Disconnect oxygen and emergency oxygen hoses, located on right side of crew member, by pulling hoses apart.
- g. Disconnect communication lead, located on oxygen hose, by pulling apart.

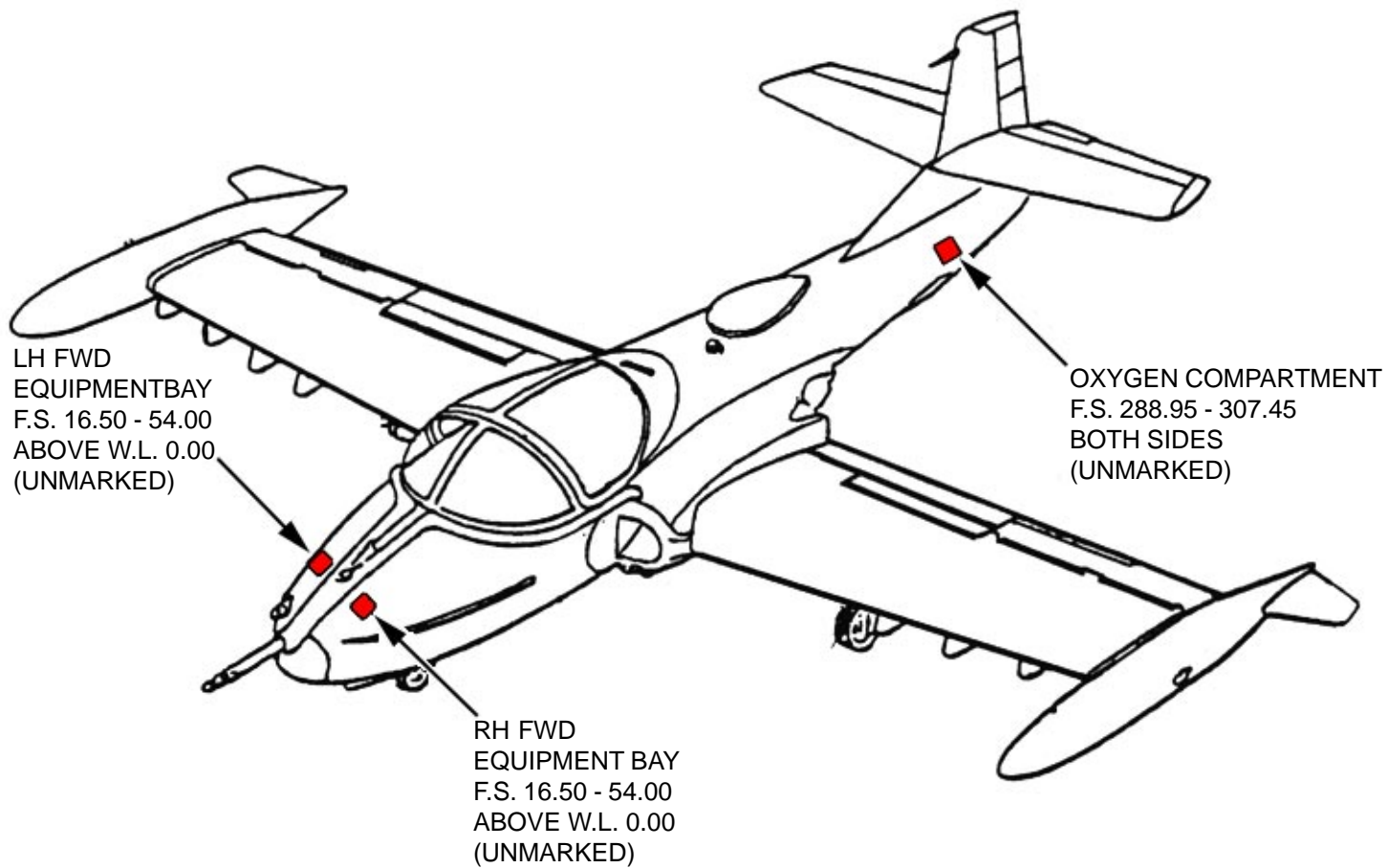
NOTE:

Torso harness contains strobe lights with batteries.

- h. Unlatch right and left parachute frost fittings/risers from torso harness and lay shoulder harness straps aside.
- i. Remove crew members carefully.

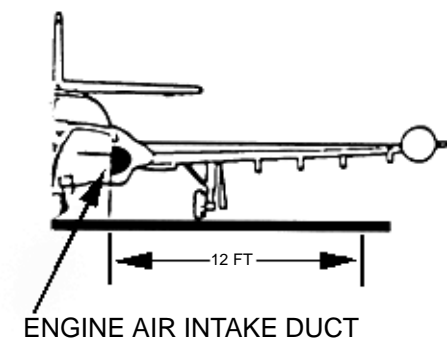
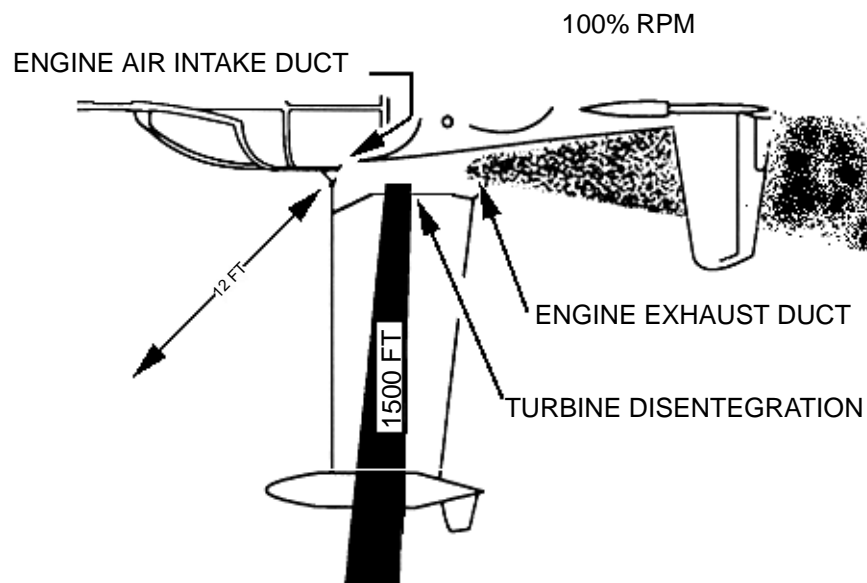


T-6A



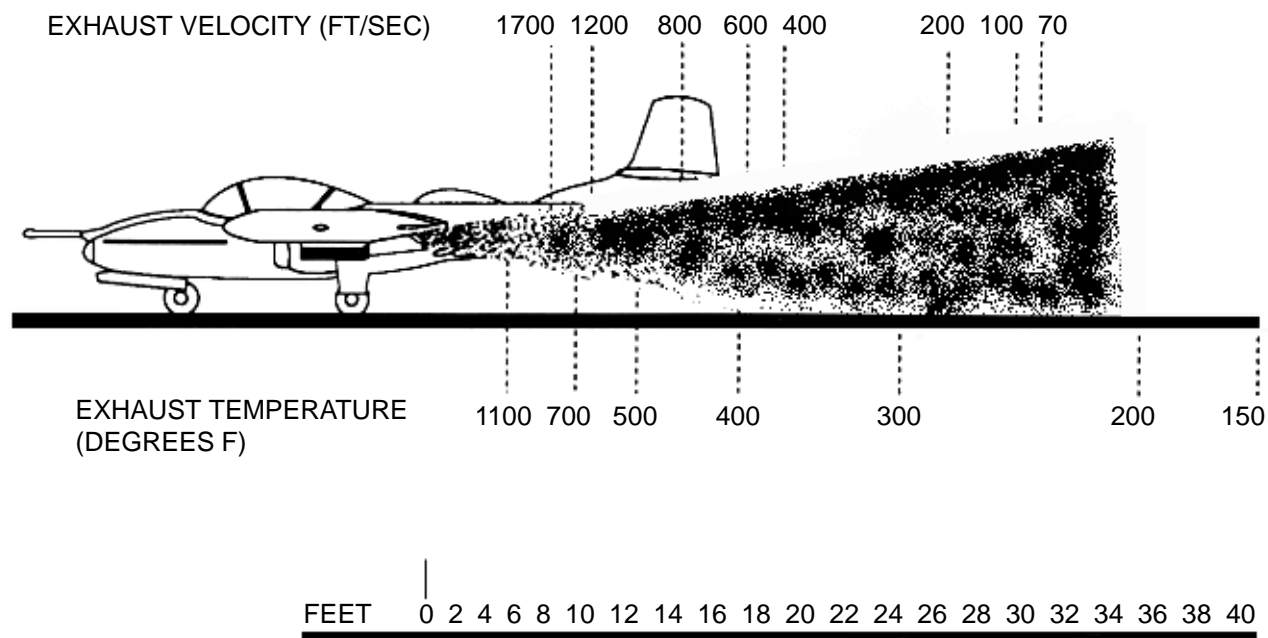
AIRCRAFT HAZARD INFORMATION

T-37



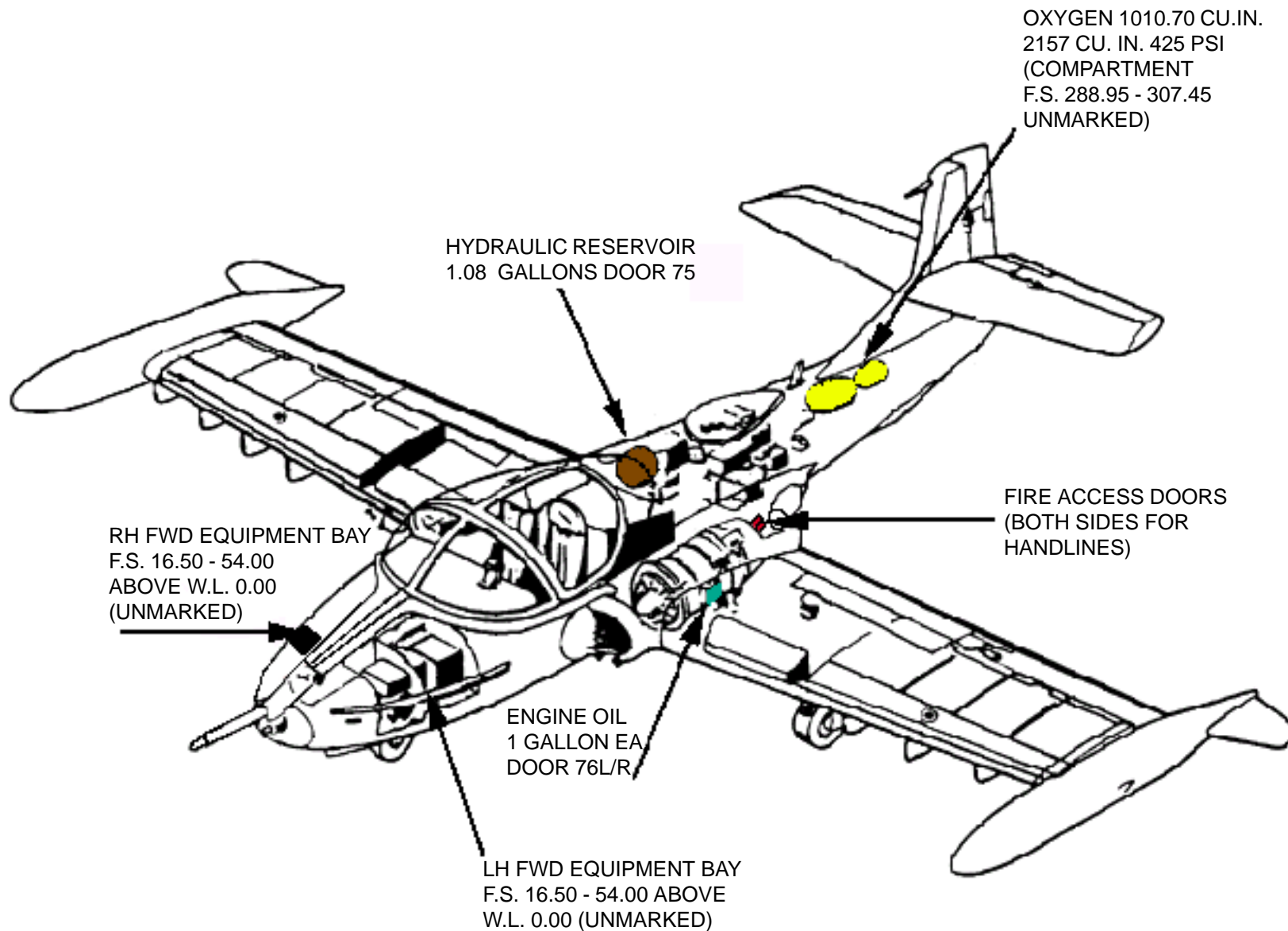
WARNING

Suction at the engine intake duct is sufficient to kill or severely injure personnel drawn into, or against, the duct.



AIRCRAFT HAZARD INFORMATION - Continued

T-37



SPECIAL TOOLS/EQUIPMENT
Power Rescue Saw
Darming Tool
Entry Tool, Locally Manufactured

AIRCRAFT ENTRY

1. NORMAL ENTRY

- Press latch and open canopy access release door, located on left side of fuselage below canopy, place canopy circuit switch to aft EXTERNAL position.
- Unzip lining, extend entry tool through and push canopy downlock handle to aft position.
- Place external canopy open/close switch, located next to canopy circuit switch, aft, to open position, and hold until canopy reaches full open.

2. MANUAL ENTRY

- Press latch and open canopy access release door, located on left side of fuselage below canopy, place canopy circuit switch to aft EXTERNAL position.
- Unzip lining, extend entry tool through and push canopy downlock handle to aft position.
- Pull and hold de-clutch T-handle out and raise canopy to full open position.

NOTE:

Two fire protection personnel, one each side, are required to raise canopy.

WARNING

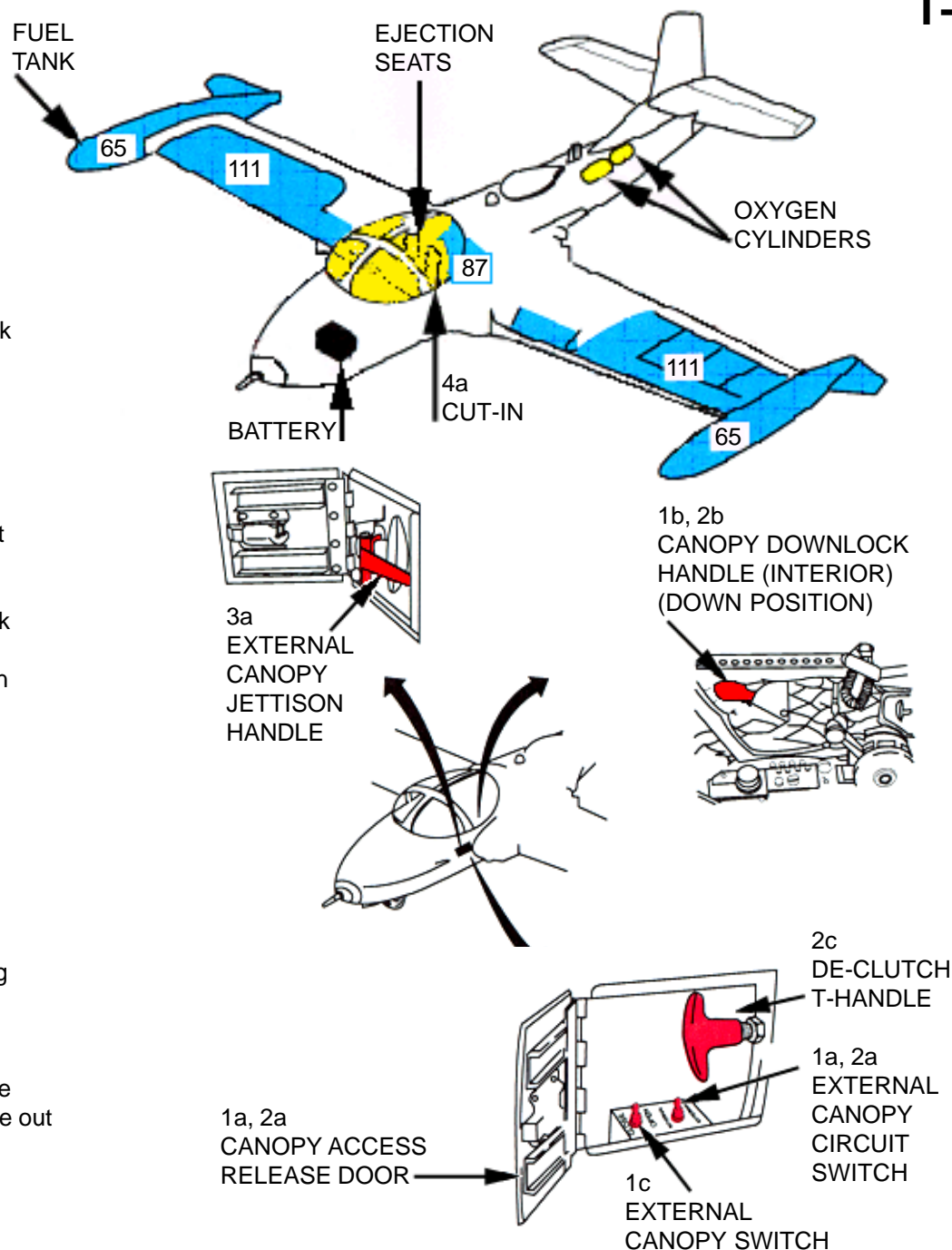
If canopy de-clutch T-handle is pulled out when the canopy is in the open position (full or partial) the canopy will slam shut causing injury to personnel under it.

3. EMERGENCY ENTRY

- Press latch and open emergency canopy door, located on left side of fuselage below canopy, and pull external canopy jettison handle out and forward. (T-handle for internal, I-handle for external.)

4. CUT-IN

- Cut canopy along canopy frame.



ENGINE SHUTDOWN

1. ENGINE SHUTDOWN

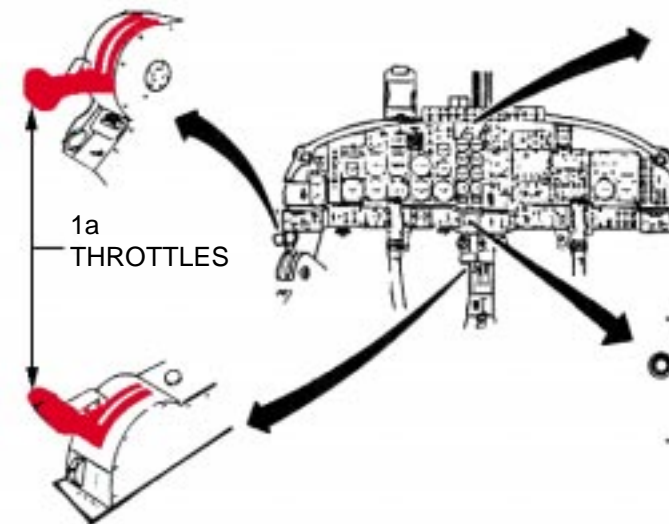
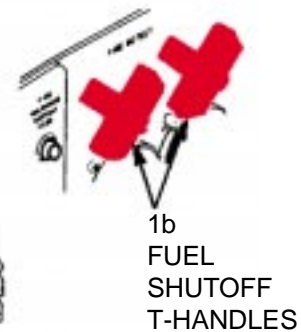
NOTE:

Engines cannot be shutdown using the pilot's (left) throttle.

- a. Raise throttles, located on instructor's quadrant, and retard to full aft CUT-OFF position.
- b. Pull fuel shutoff T-handles.
- c. Place battery switch, located center on instrument panel, to OFF position.

PILOT'S
THROTTLES

INSTRUMENT PANEL



INSTRUCTOR'S
THROTTLES

SAFETYING EJECTION SYSTEM AND AIRCREW EXTRACTION

1. NORMAL SAFETYING EJECTION SEAT

- a. Insert arming handle safety pins in lower right side of both ejection seats.

2. EMERGENCY SAFETYING EJECTION SEAT

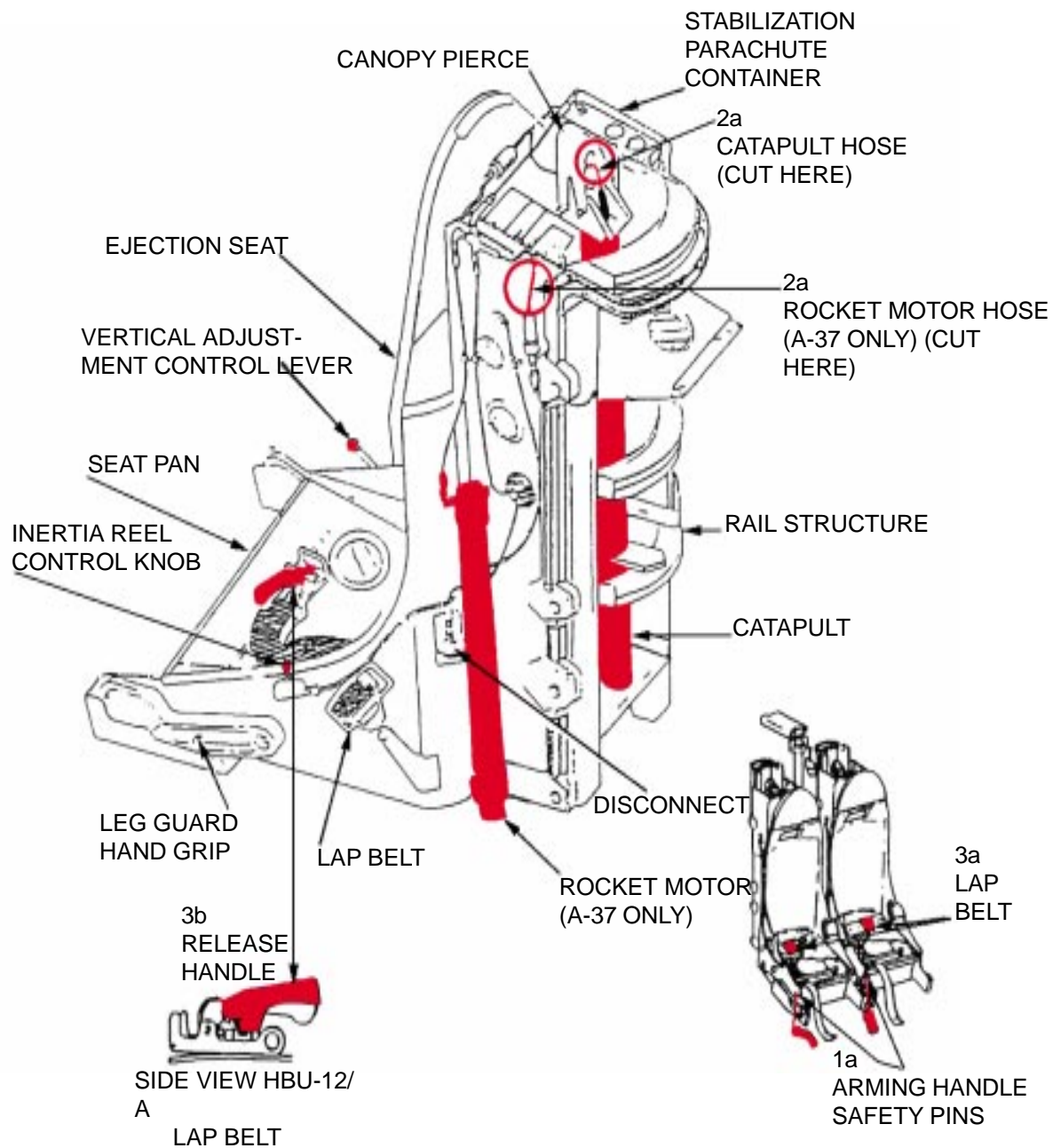
- a. Cut catapult hose located behind headrest just aft of canopy piercer and cut rocket motor initiator hose located on outboard side of both seats.

3. AIRCREW EXTRACTION

- a. Unlatch lap belt and remove shoulder harness from crewmember(s).
- b. On HBU-12/A lap belt, squeeze together the black and silver grips of the handle and lift up. Separate belt and remove gold key. Remove shoulder harness/negative "G" restraint strap loop ends.

NOTE:

Use pilot's throttle to throttle back engines.
Seats must be safetied before engines are shutdown at instructor's throttle.



AIRCRAFT SKIN PENETRATION POINTS, DIMENSIONS, AND HAZARD AREAS

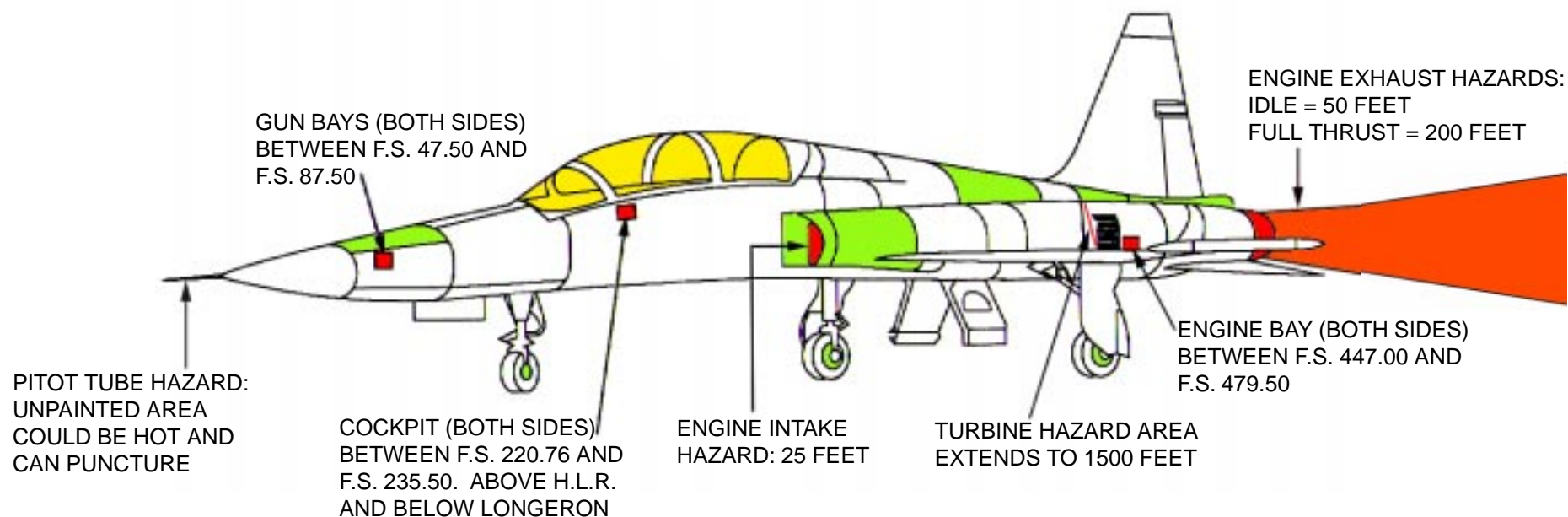
DIMENSIONS:

WING SPAN 25 FEET
HEIGHT 12.9 FEET
LENGTH 46.3 FEET

WARNING

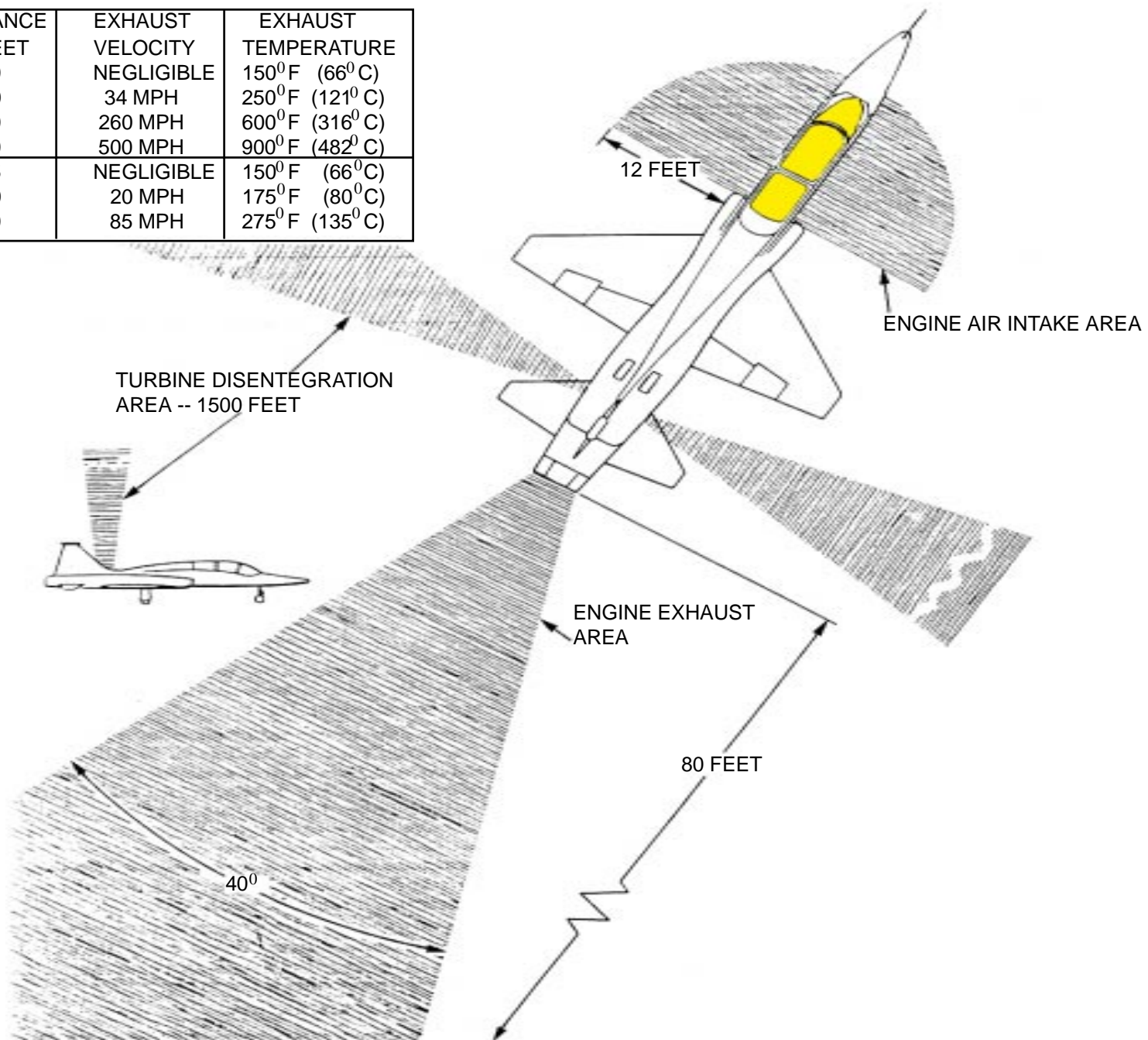
Magnezium fires should be fought with dry chemical and not water. Water usage will spread fire.

- PLEXIGLASS
 - WINDSHIELD AND CANOPIES
- MAGNEZIUM
 - WHEELS
 - AFT OF NOSE CONE
 - COCKPIT
 - INTAKE COVERINGS
 - CENTER OF FUSLAGE
 - FORWARD ENGINE AREA
 - AREA AROUND VERTICAL STABILIZER



AIRCRAFT HAZARD AREAS

	DISTANCE IN FEET	EXHAUST VELOCITY	EXHAUST TEMPERATURE
MAXIMUM THRUST	80	NEGLIGIBLE	150 ⁰ F (66 ⁰ C)
	60	34 MPH	250 ⁰ F (121 ⁰ C)
	30	260 MPH	600 ⁰ F (316 ⁰ C)
	20	500 MPH	900 ⁰ F (482 ⁰ C)
TAXI THRUST (IDLE)	35	NEGLIGIBLE	150 ⁰ F (66 ⁰ C)
	30	20 MPH	175 ⁰ F (80 ⁰ C)
	20	85 MPH	275 ⁰ F (135 ⁰ C)



SPECIAL TOOLS/EQUIPMENT

Dearming Tool
Power Rescue Saw
Safety Pin P/N 50615
Fire Drill II

AIRCRAFT ENTRY**1. NORMAL ENTRY**

- a. Push latches to open door, located on left side of fuselage.

CAUTION

Opening canopy under windy conditions could cause inadvertant canopy separation from aircraft.

- b. Pull handle(s) out until engaged and rotate clockwise to unlock and raise canopy, give canopy assistance while rotating handle.

NOTE:

Canopies are secure when raised to full open position.

2. EMERGENCY ENTRY

- a. Push latch on canopy jettison access door, located on left and right side of forward fuselage, to open.
- b. Pull canopy jettison D-handle, approximately 6 feet to jettison both canopies.

3. CUT-IN

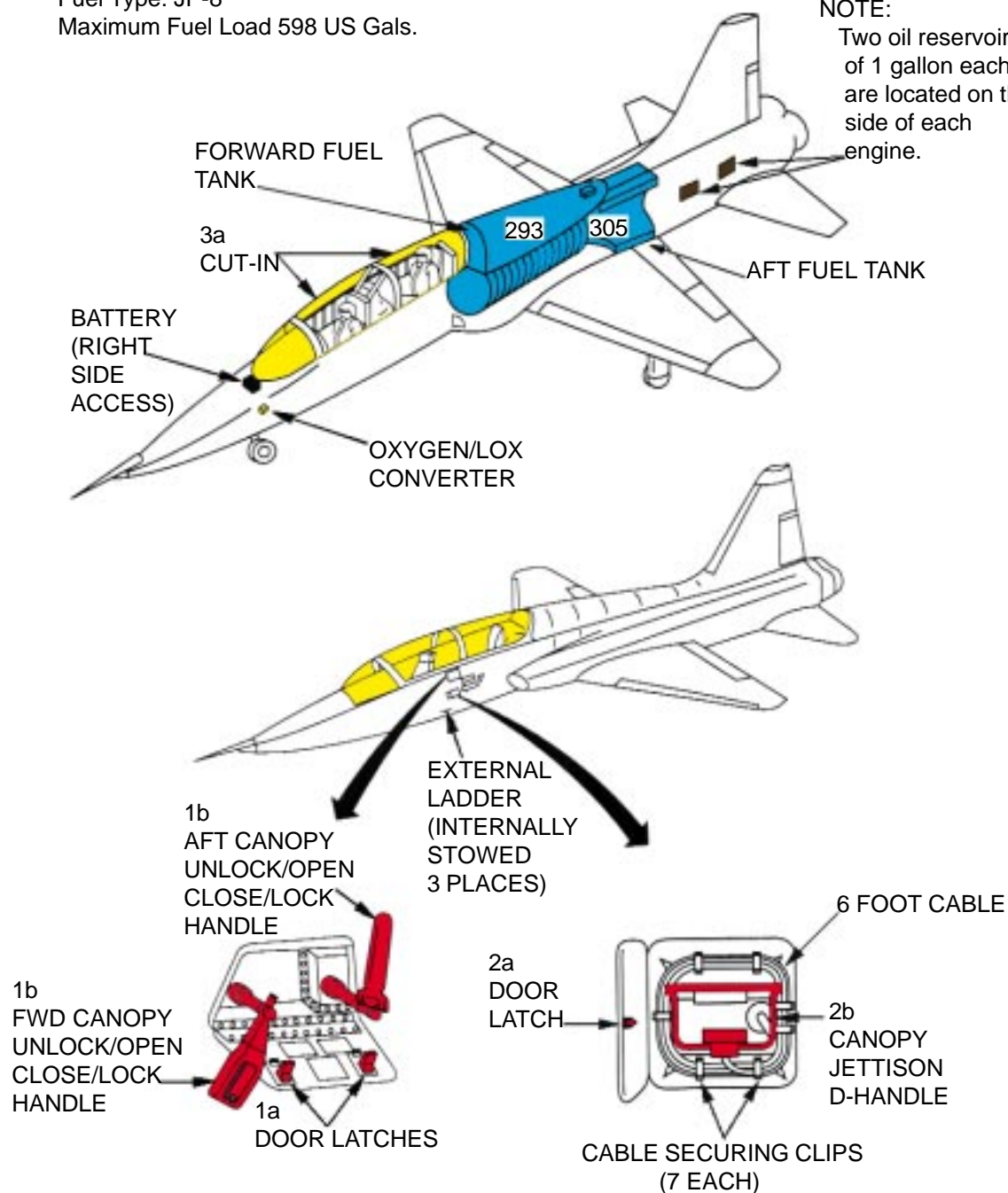
- a. Cut canopy along canopy frame on all 4 sides.

NOTE:

Fuel Type: JP-8
Maximum Fuel Load 598 US Gals.

NOTE:

Two oil reservoirs of 1 gallon each are located on the side of each engine.



ENGINE SHUTDOWN

1. ENGINE SHUTDOWN (FWD COCKPIT ONLY)

NOTE:

AETC operated aircraft have a throttle gate installed on the aft portion of the throttle console in the forward cockpit. The throttle gate must be disengaged prior to proceeding.

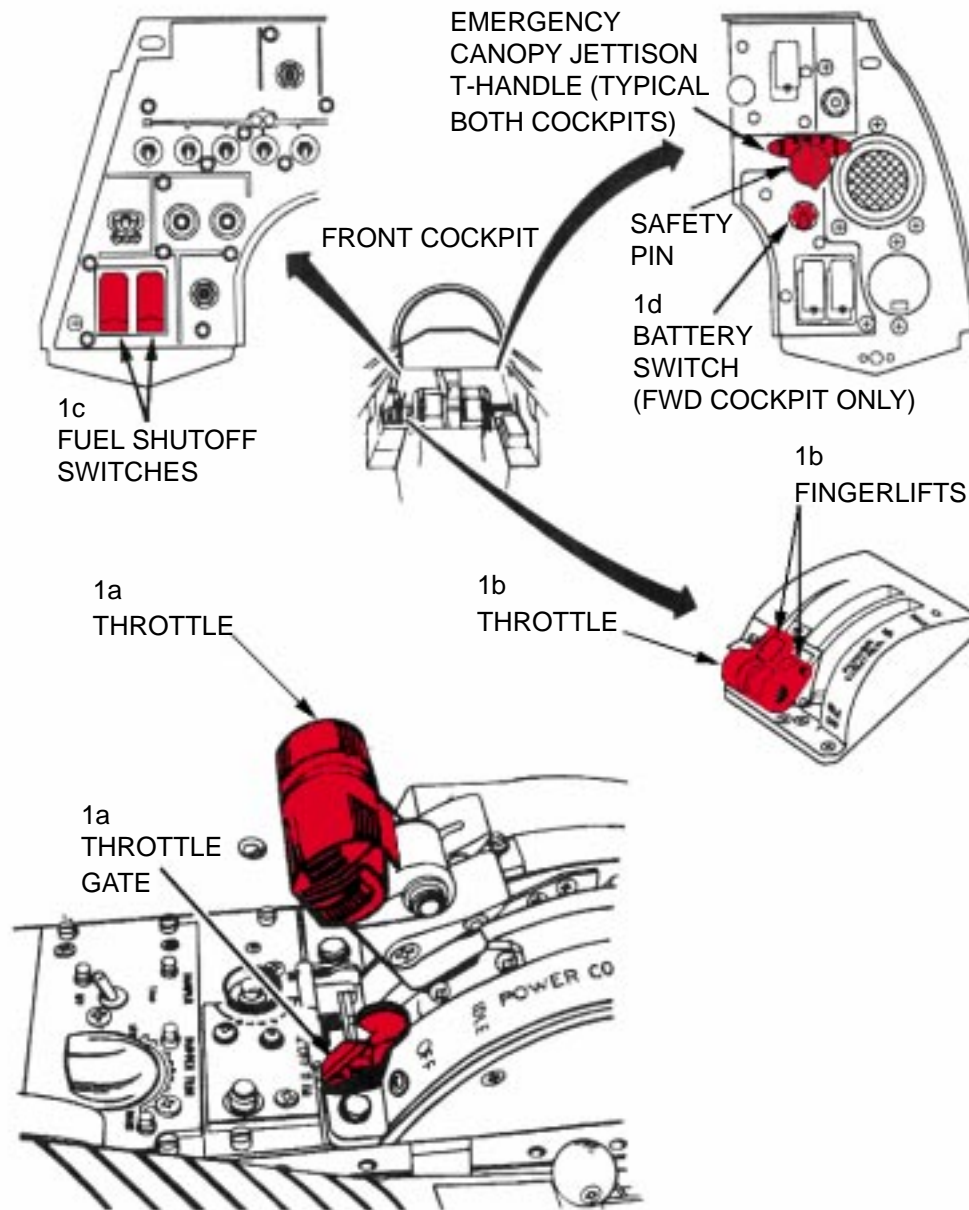
- For AETC aircraft only: Disengage throttle gate by pushing the red release arm inboard (toward ejection seat).
- For conventional aircraft: Raise finger lift and retard throttle, located on left console panel, to full aft OFF position.
- Push red guards down and place fuel shutoff switches to closed position. Wait 10 seconds for fuel valve to operate.
- Place battery switch, located on right vertical control panel, down to OFF position.

NOTE:

- Engines can be throttled to idle from rear cockpit.
- If engines fail to shutdown, turn battery switch ON and place fuel shutoff switches, located on left vertical panel, to CLOSED position. Place battery switch to OFF position.

WARNING

If emergency canopy jettison T-handle has been actuated, but canopy has not jettisoned, cut canopy hose at top aft of seat structure to prevent inadvertent canopy jettison.



SAFETYING EJECTION SYSTEM AND AIRCREW EXTRACTION

1. NORMAL SAFETYING EJECTION SEAT

- a. Insert seat safety pin in right seat leg brace, forward of ejection control handle, to prevent inadvertent ejection during extraction.

NOTE:

Flight status safety pins are normally stored in container mounted on left forward console.

2. EMERGENCY SAFETYING EJECTION SEAT

- a. Cut catapult hose, located right side and aft of head-rest.

NOTE:

Dearming tool must be 90 degrees to the handle in order to cut drogue gun ballistic hose properly.

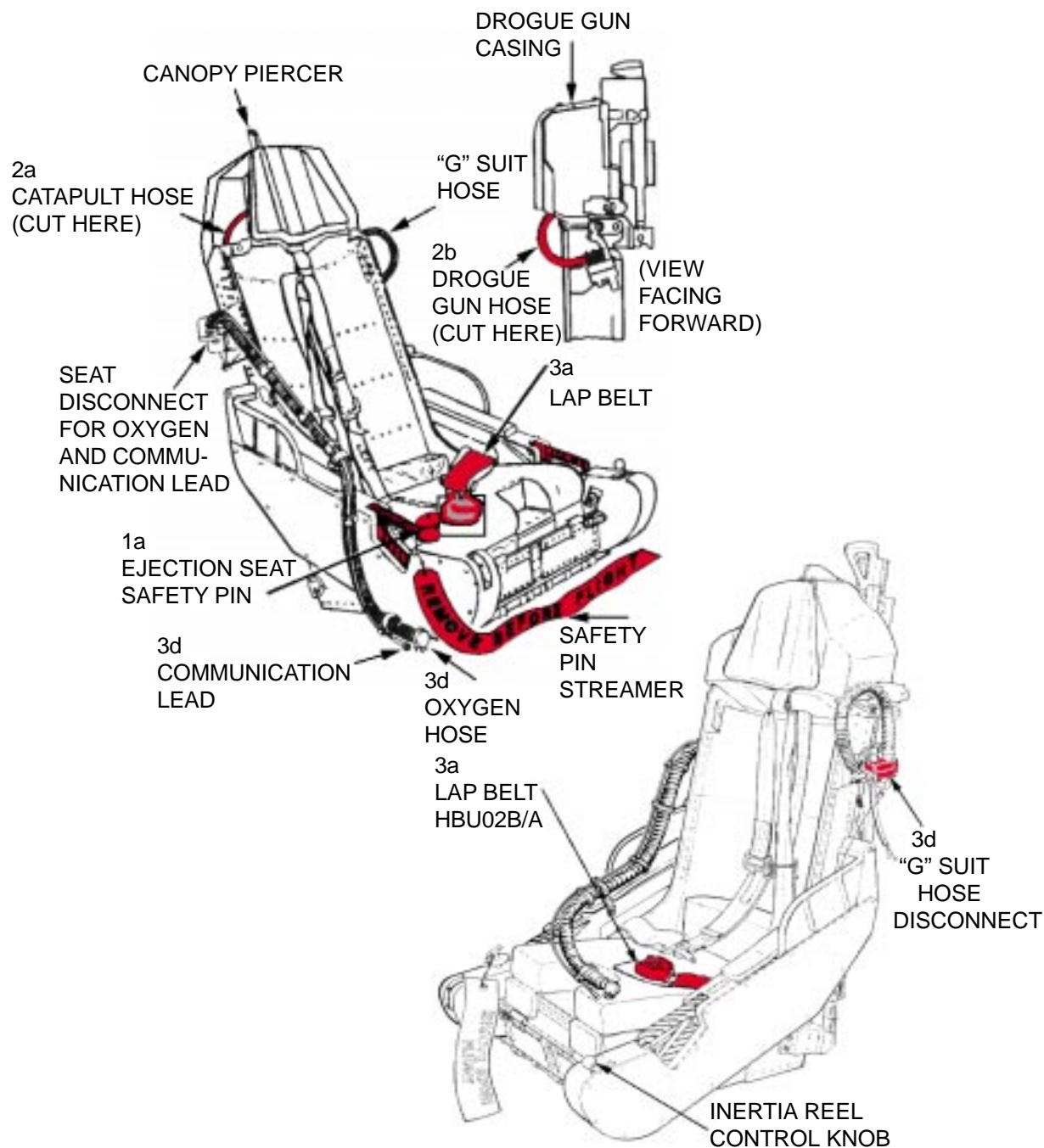
- b. Cut drogue gun ballistic hose on top left side of seat.

3. AIRCREW EXTRACTION

- a. Unlatch safety belt and remove shoulder harness from crewmember(s).
- b. On HBU-12/A lap belt, squeeze together the black and silver grips of the handle and lift up. Separate belt and remove gold key. Remove shoulder harness/negative "G" restraint strap loop ends.
- c. Disconnect survival kit from crewmember by pulling emergency survival kit. Release handle located on right side of kit, if attached.
- d. Disconnect "G" suit hose, oxygen hose, and communication lead, and oxygen mask if applicable.

NOTE:

- The HBU-28/A automatic lap belt is used on some T-38 seats.
- Some aircraft are not equipped with survival kits.



AIRCRAFT ENTRY

1. NORMAL ENTRY

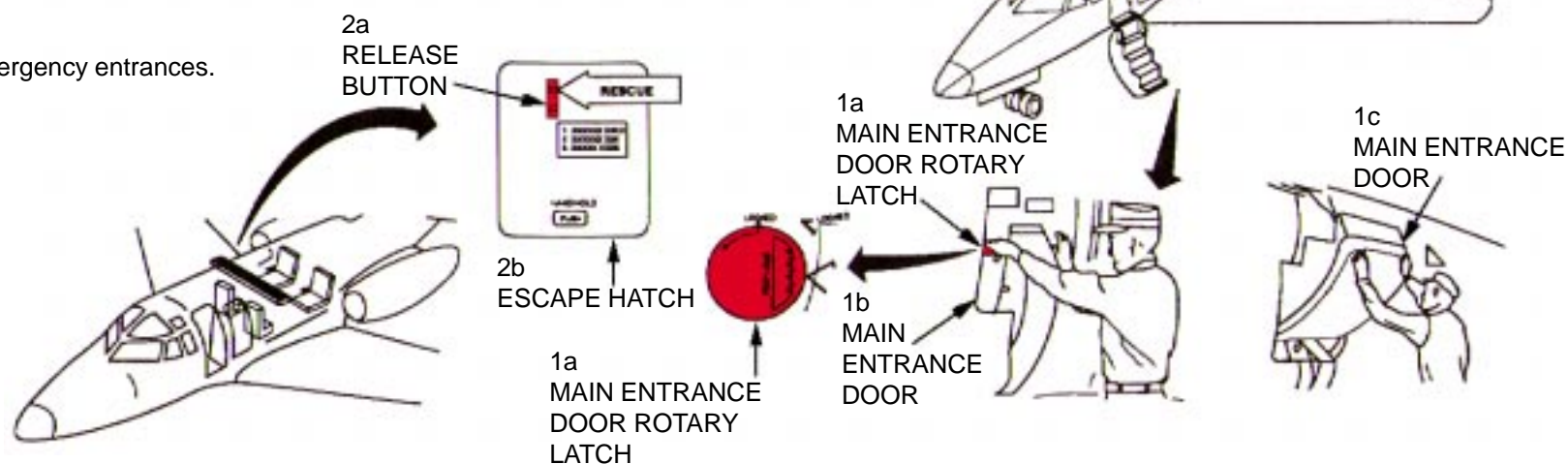
- a. Turn rotary latch, located forward left side fuselage, one quarter turn counterclockwise to unlock main entrance door.
- b. Apply even pressure on lower section of door. Door will move inward several inches and then top of door will rotate outward and start a downward swing.
- c. When door starts downward movement, support door and lower to extended position.

2. EMERGENCY ENTRY

- a. Push release button, located right side of fuselage over wing, and pull handle to unlock escape hatch.
- b. Push escape hatch in to gain entry. Do not block path of egress with removed hatch.

3. CUT-IN

- a. Cut in normal and emergency entrances.



ENGINE SHUTDOWN AND AIRCREW EXTRACTION

1. ENGINE SHUTDOWN

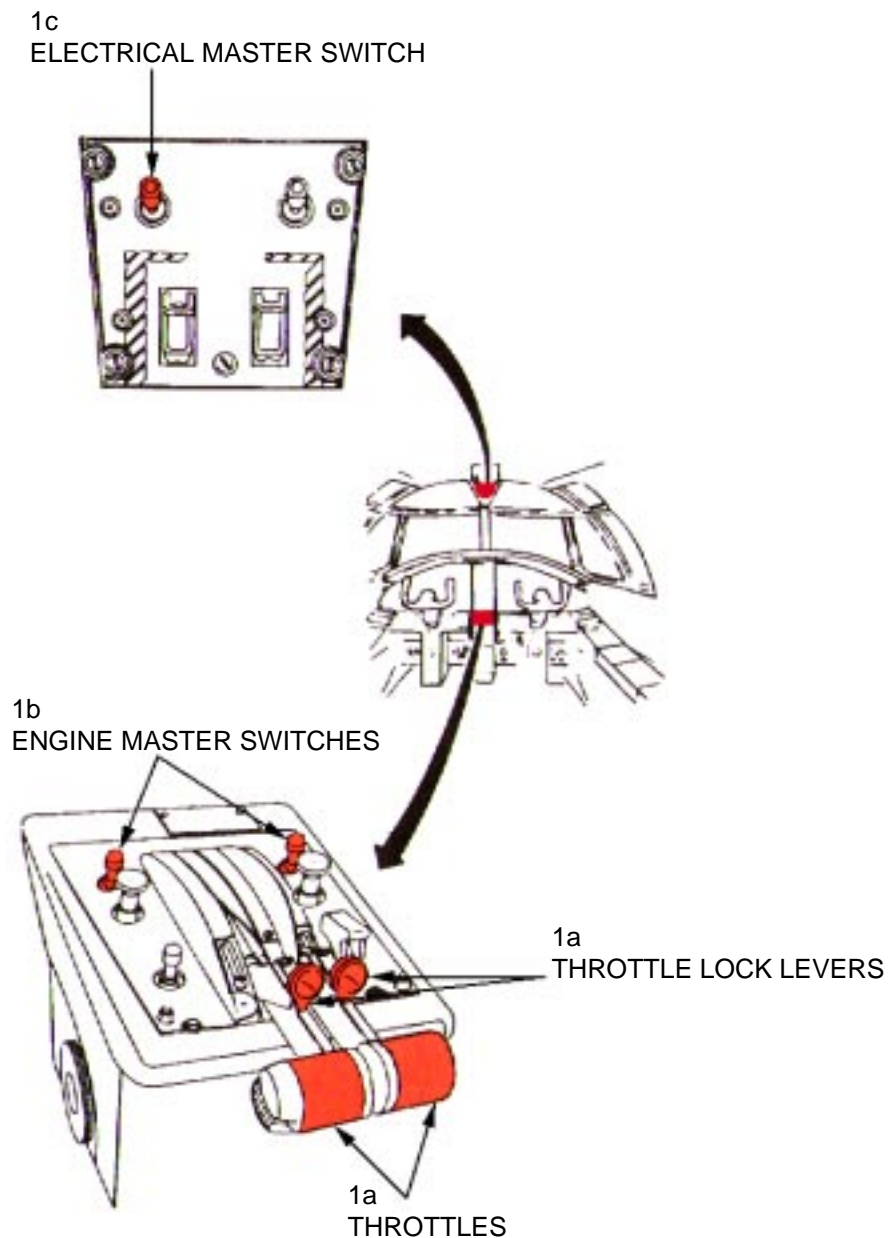
- a. Push throttle lock levers forward and retard throttles aft located on pilot's center console, to CLOSED position.
- b. Place engine master switches, located on pilot's center console, to OFF position.
- c. Place electrical master switch, located on overhead control panel, to OFF position.

2. AIRCREW EXTRACTION

- a. Unlatch lap belt and remove shoulder harness from crewmember(s).

NOTE:

If seat tracks are not damaged during crash landing, use adjustable seat control to retract seat in aft position to aid in removing crewmember(s).



TEST BED CONFIGURATION FOR T-39B AIRCRAFT

TAIL NUMBER: 59-2873
GLOBAL POSITIONING
SYSTEM (GPS)

PASSENGER CAPACITY: 6

ADDITIONAL OXYGEN BOTTLES: NO

LOX Converters: NO

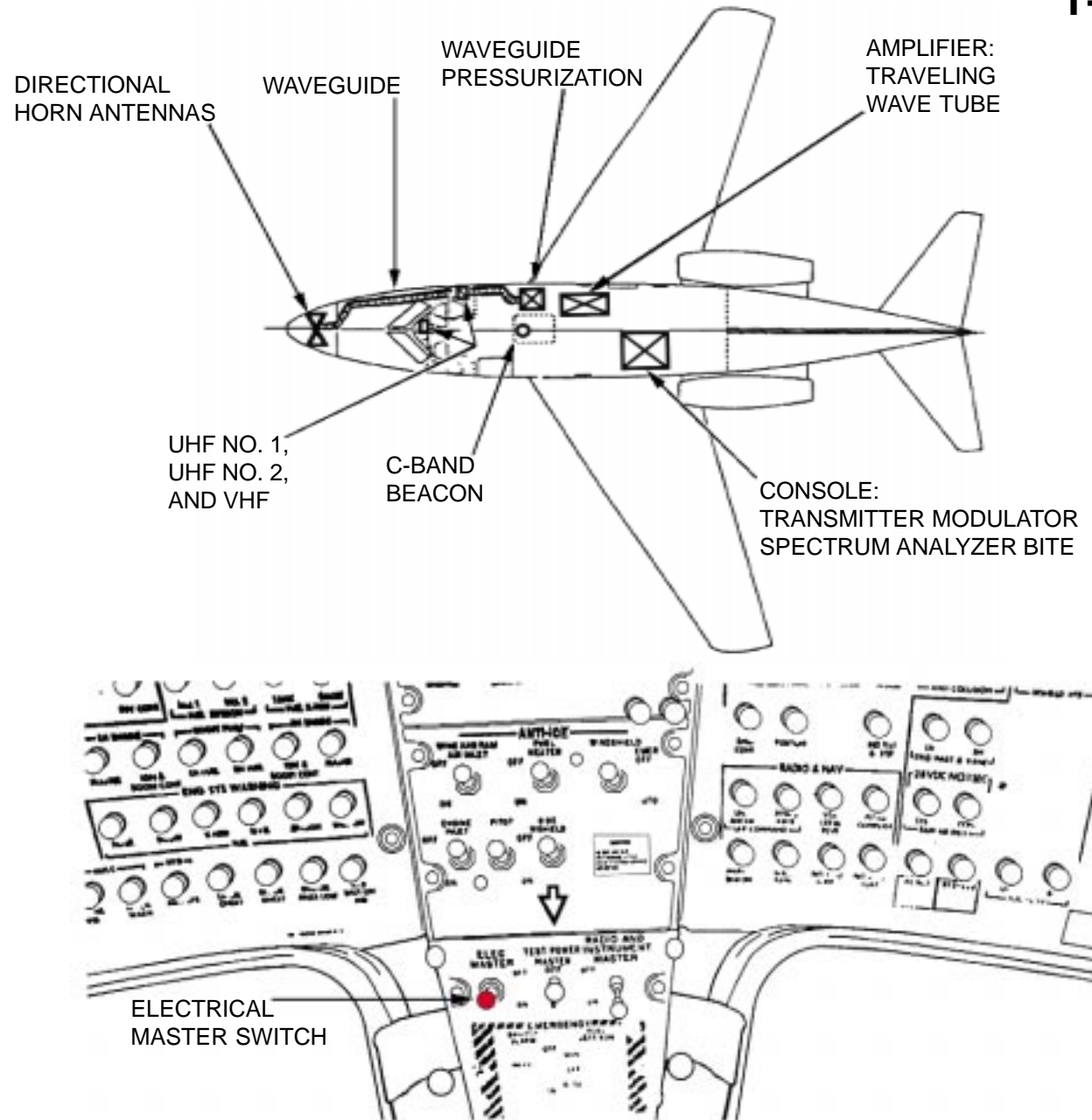
Nitrogen Bottles: NO

Modified Escape Routes: NO

Changes for Engine/APU Shutdown: NONE

Changes in Electrical/Battery Power: The power for the project goes through a Test Master Power Switch (see graphic), located above pilot's head between the flight deck windows. During project testing, normal transfer of power is not accomplished until after Data is downloaded. During emergency, the shutdown of power follows standard Tech Order procedures.

HINDRANCES/DIFFERENCES: NONE



TEST BED CONFIGURATION FOR NT-39 AIRCRAFT

TAIL NUMBER: 59-2870
GLOBAL POSITIONING
SYSTEM (GPS) IFF

PASSENGER CAPACITY: 6

AIRCREW MEMBER/SUPPORT PERSONNEL SEATING ARRANGEMENT: This aircraft cabin compartment normally has four (4) passenger seats. There is no center-facing passenger seat. Refer to graphic.

ADDITIONAL OXYGEN BOTTLES: NO

LOX Converters: NO

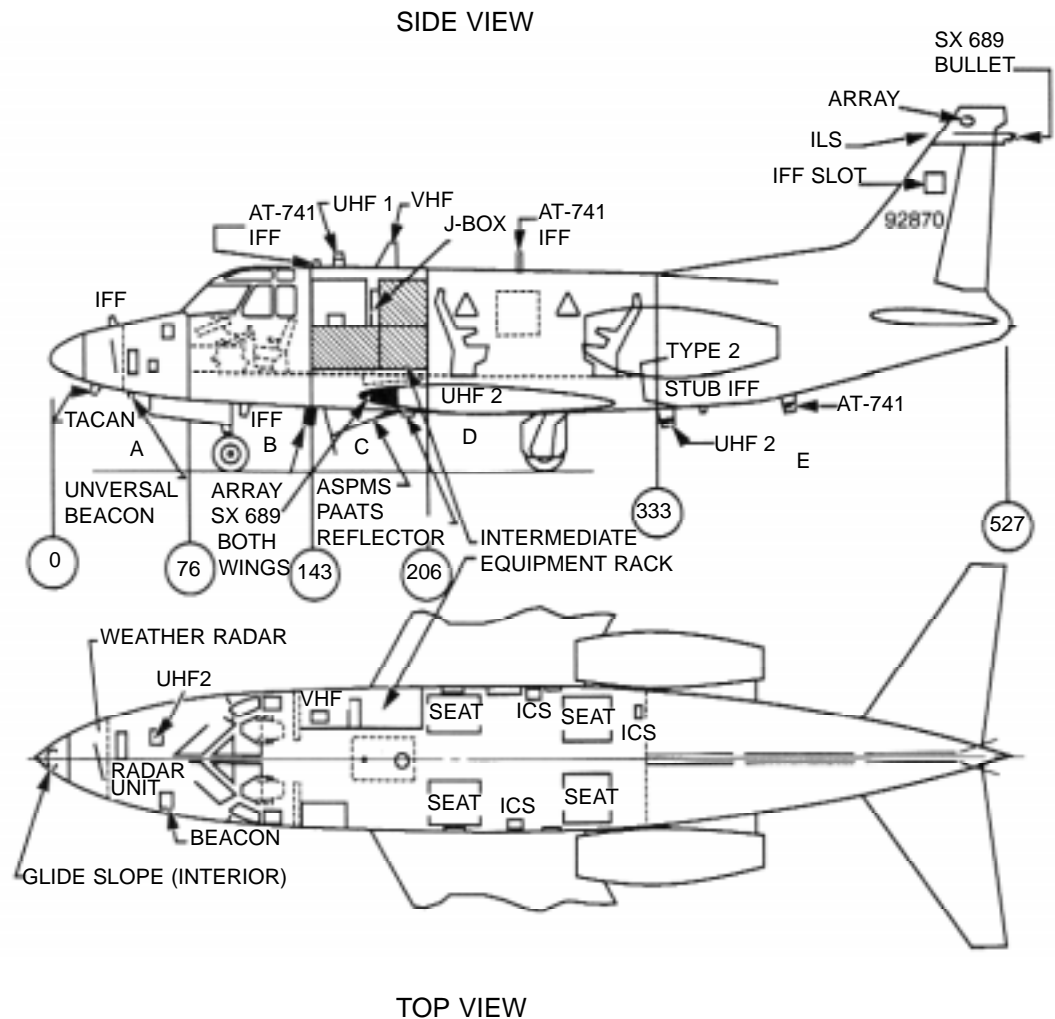
Nitrogen Bottles: NO

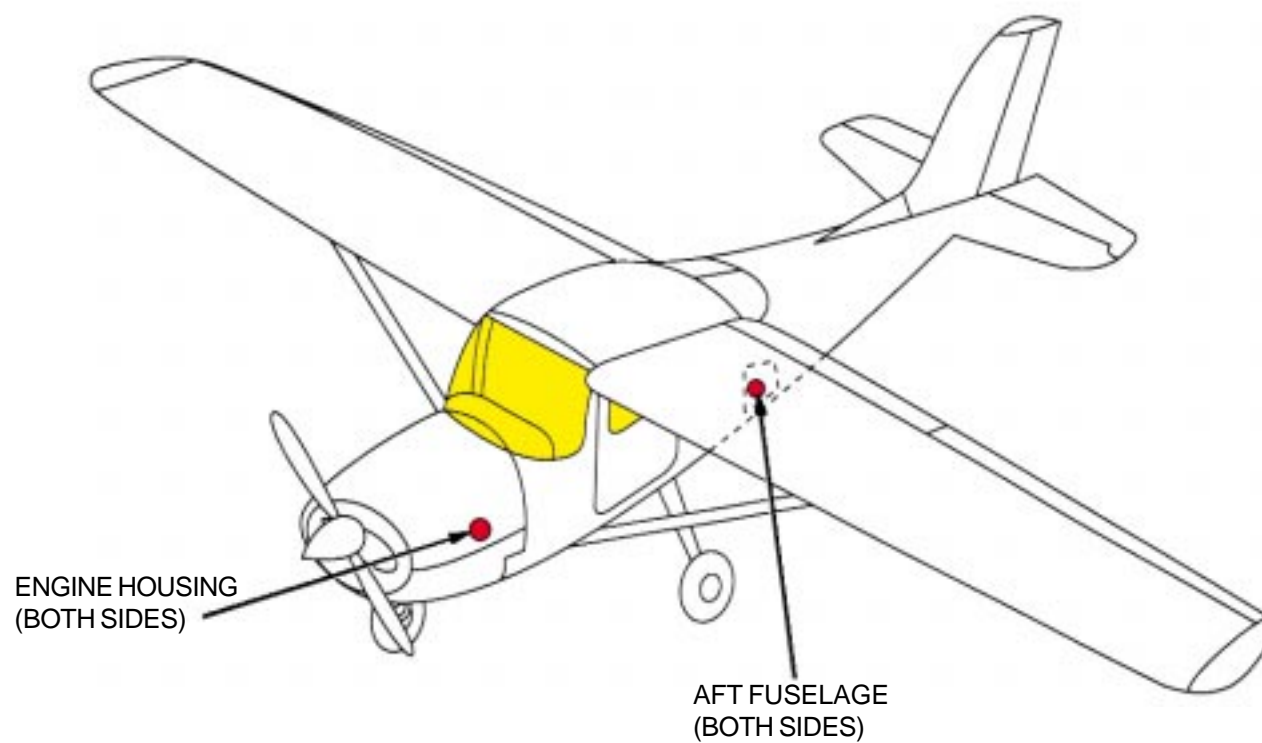
Modified Escape Routes: NO

Changes for Engine/APU Shutdown: NONE

Changes in Electrical/Battery Power: The power for the project goes through a Test Master Power Switch (see graphic for 59-2873), located above pilot's head between the flight deck windows. During project testing, normal transfer of power is not accomplished until after Data is downloaded. During emergency, the shutdown of power follows standard Tech Order procedures.

HINDRANCES/DIFFERENCES: NONE





SPECIAL TOOLS/EQUIPMENT

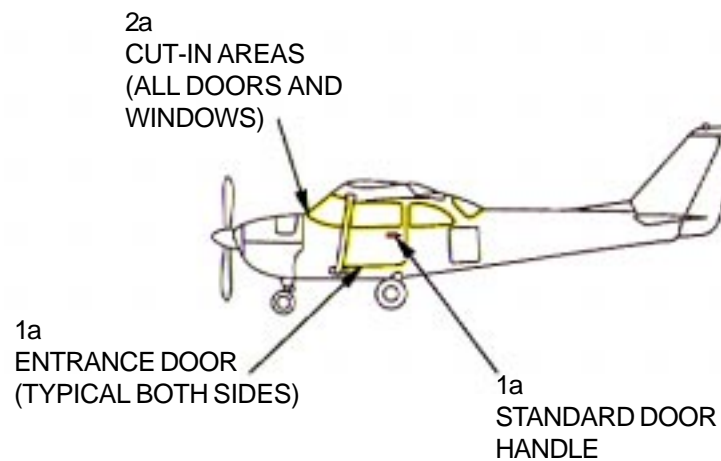
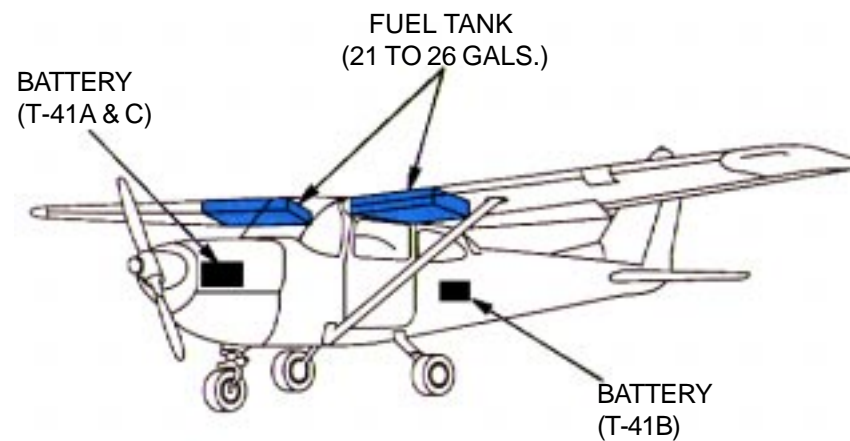
Claw Tool
Power Rescue Saw

1. NORMAL/EMERGENCY ENTRY

- a. Rotate door handle, located both sides forward fuselage, to down position and pull door outward.

2. CUT-IN

- a. Cut-in marked areas, located around all doors and windows.



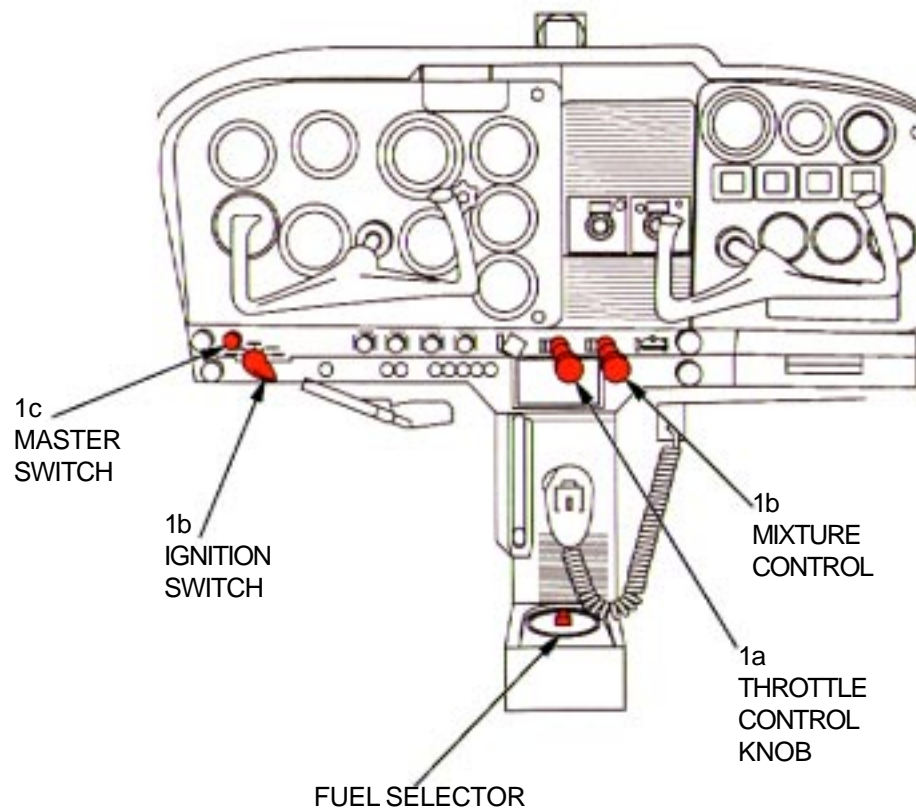
ENGINE SHUTDOWN AND AIRCREW EXTRACTION

1. ENGINE SHUTDOWN

- a. Depress lock and pull mixture control knob, located lower center control panel, full out.
- b. Rotate ignition switch, located lower left corner control panel, counterclockwise to OFF.
- c. Push in master switch, located lower left corner control panel.

2. AIRCREW EXTRACTION

- a. Unlatch lap belt and remove shoulder harness from crewmember(s).



AIRCRAFT HAZARDS

ENGINE DANGER AREAS

WARNING

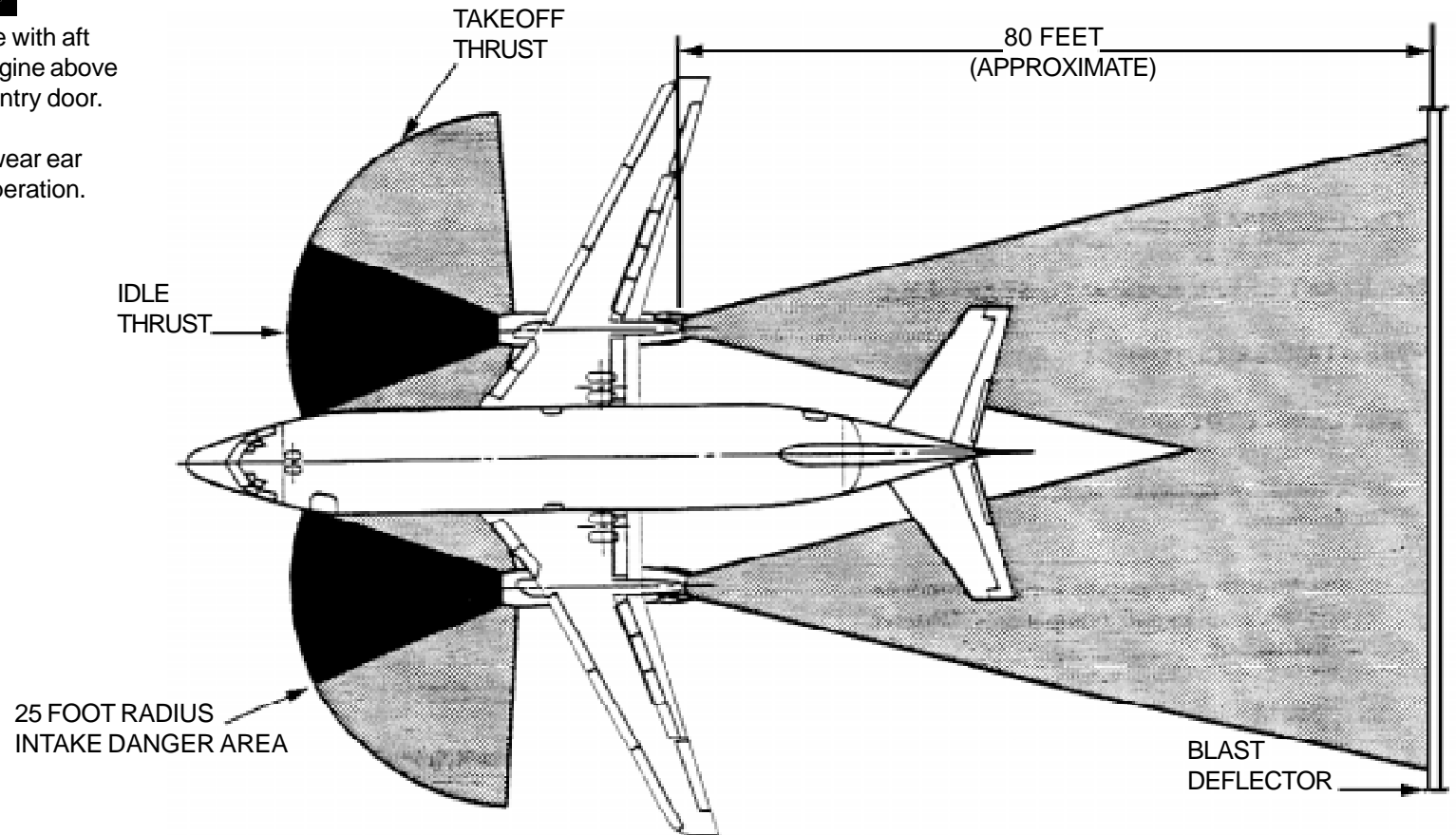
- Do not operate right engine with aft service door open or left engine above idle when using the main entry door.
- Ground personnel should wear ear protection during engine operation.

AIRCRAFT DIMENSIONS

Length 100' 0"

Wing Span 93' 0"




Height 37' 0"

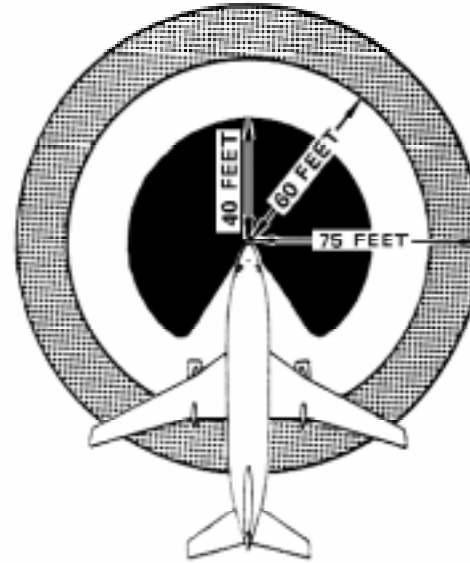
**T-43**

AIRCRAFT HAZARDS

RADAR RADIATION AREAS



WARNING

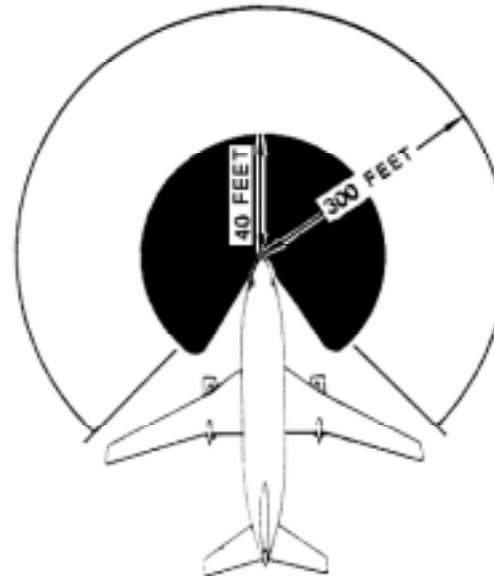
-  Personnel radiation-40 feet
-  Possible fuel ignition-60 feet
-  Possible electro explosive device-5 feet



LESS 34-1090

WARNING

-  Personnel radiation-40 feet
-  Possible fuel ignition or possible electro-explosive device-300 feet



WITH 34-1090

SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw

12 Ft Ladder

Fire Drill II

AIRCRAFT ENTRY

1. NORMAL ENTRY

- a. Pull handle release button in center of exterior airstair control handle, located on left side of fuselage aft and below airstair compartment door, rotate handle clockwise to extend airstair.
- b. Pull entry door handle in center of entry door, located on left forward side of fuselage, outward, rotate handle clockwise, and rotate door inward. Return handle to stowed position by pushing it inward and pull door outward to open position.
- c. Pull service door handle in center of service door, located on right aft side of fuselage, outward, rotate handle counter clockwise, and rotate door inward. Return handle to stowed position by pushing it inward, and pull door outward to open position.

2. EMERGENCY ENTRY

- a. Push in flush panel at top of overwing escape hatch(es), located on both sides of fuselage. Push hatch inward. Do not block egress path.

NOTE:

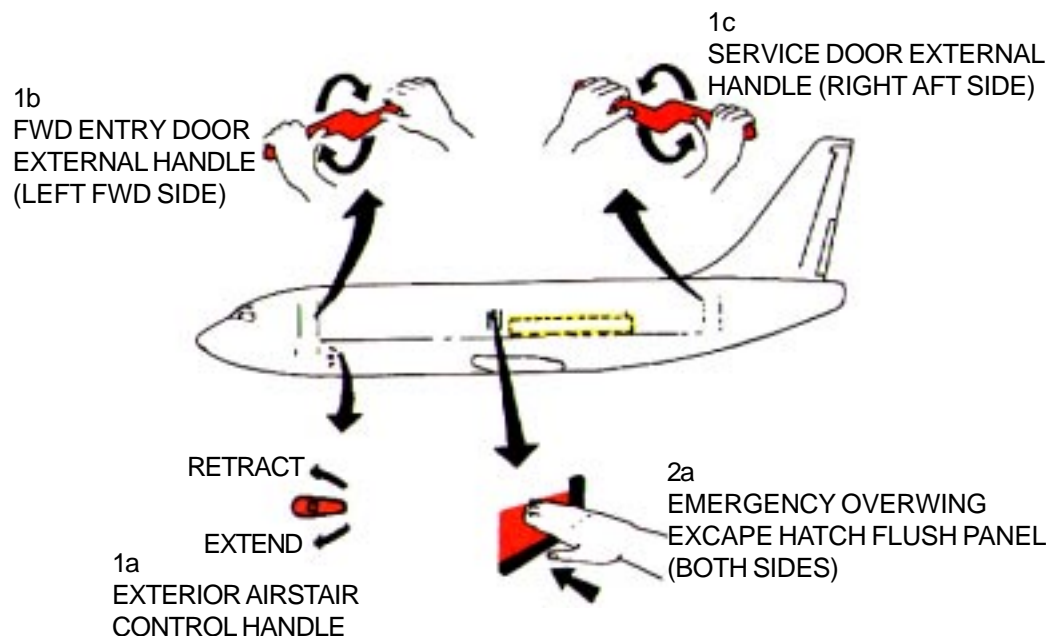
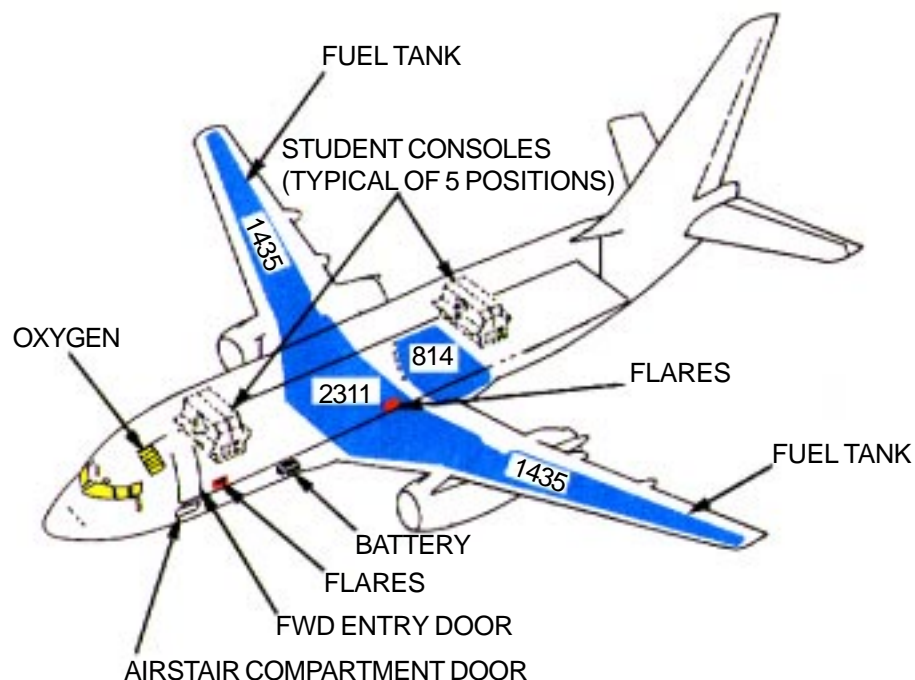
Pull external release handle, located below copilot's sliding window on right side of fuselage, and slide window aft.

3. CUT-IN

- a. Special cut-in area located above the trailing edge of left wing aft of overwing escape hatch, below windows and above floor.

NOTE:

Aircraft with serial numbers 72-0283, 72-0284, 72-0287 & 73-1154 disregard left cut-in areas.



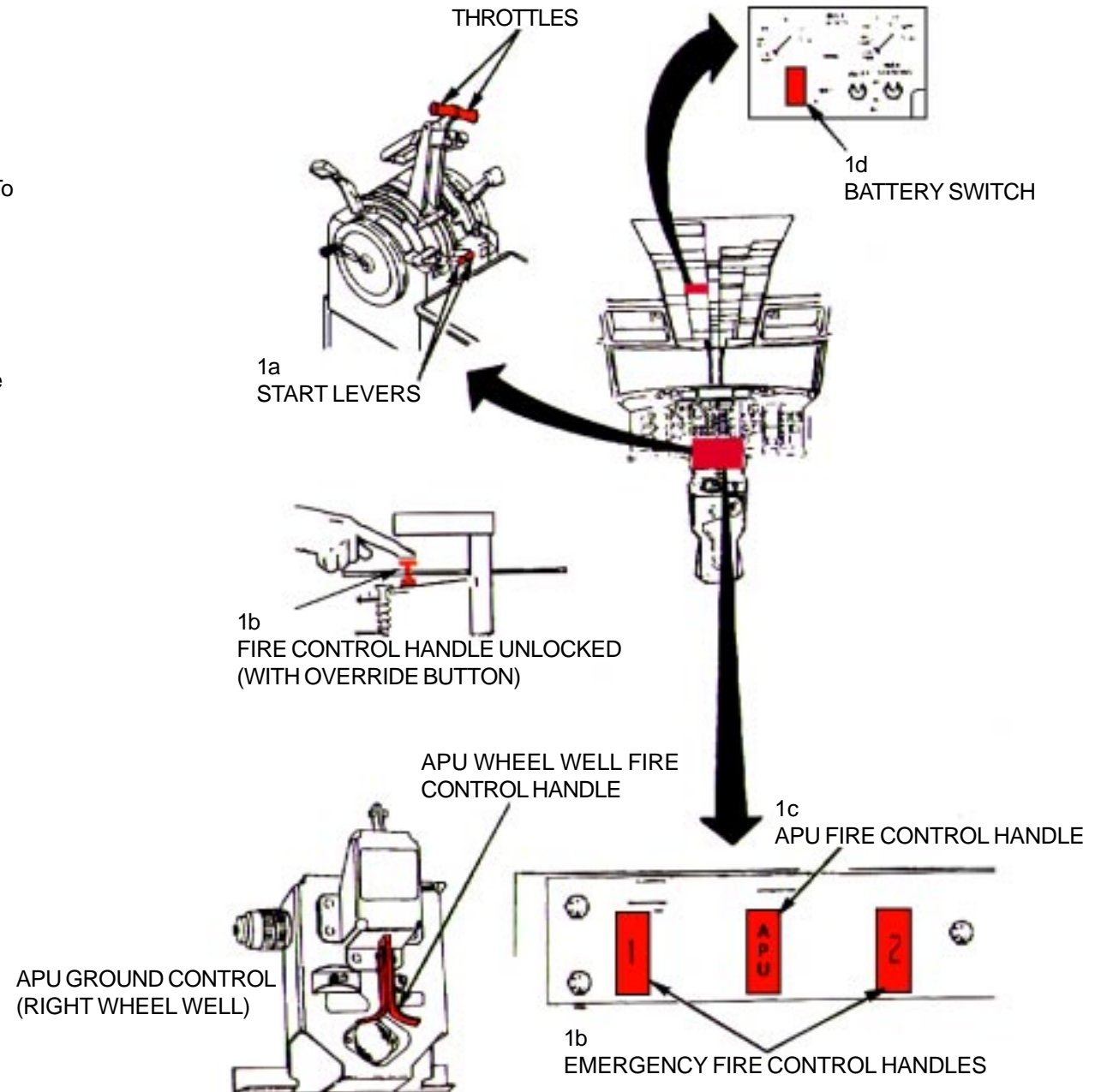
ENGINE SHUTDOWN

1. ENGINE SHUTDOWN

- Retard start levers, located on pilot's center console, to aft/down CUT-OFF position.
- Press override button under emergency fire control handles, pull emergency fire control handles, located on pilot's center console. To discharge agent, turn fire control handles right or left toward the affected engine.
- Pull APU emergency fire control handles, located between one and two engine shutdown handles on center console. To discharge agent, turn APU fire control handle right or left.
- Place battery switch, located on left half of overhead panel, to OFF position.

NOTE:

An APU Fire Control handle is located in the right wheel well.



AIRCREW EXTRACTION

1. AIRCREW EXTRACTION

NOTE:

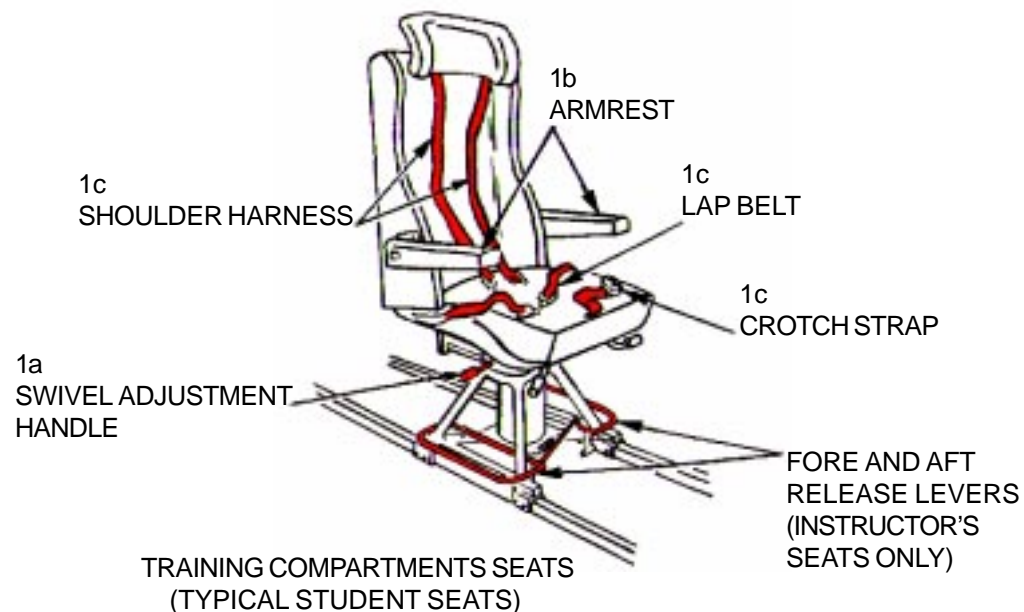
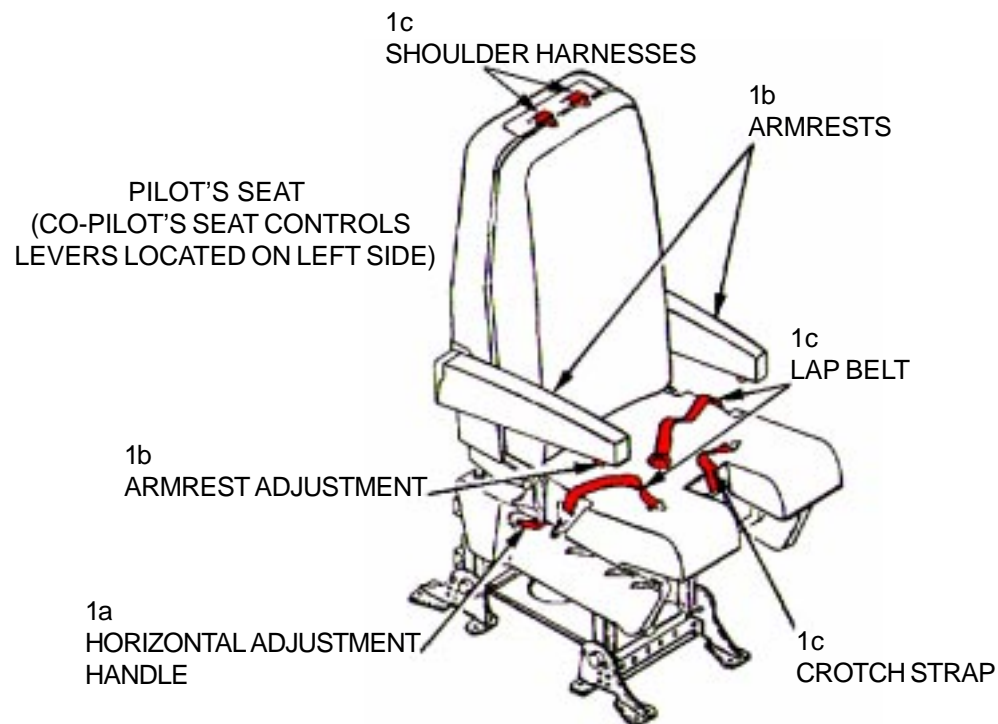
Observer's seat may block entry to flightdeck. Release seat by pulling levers on seat back and seat bottom. Stow seat in recess on right side of flightdeck entry way.

- a. If seat tracks are not damaged during crash landing, use horizontal adjustment handle on pilot's and copilot's seat, and swivel adjustment handle on training compartment seats, to position seats.

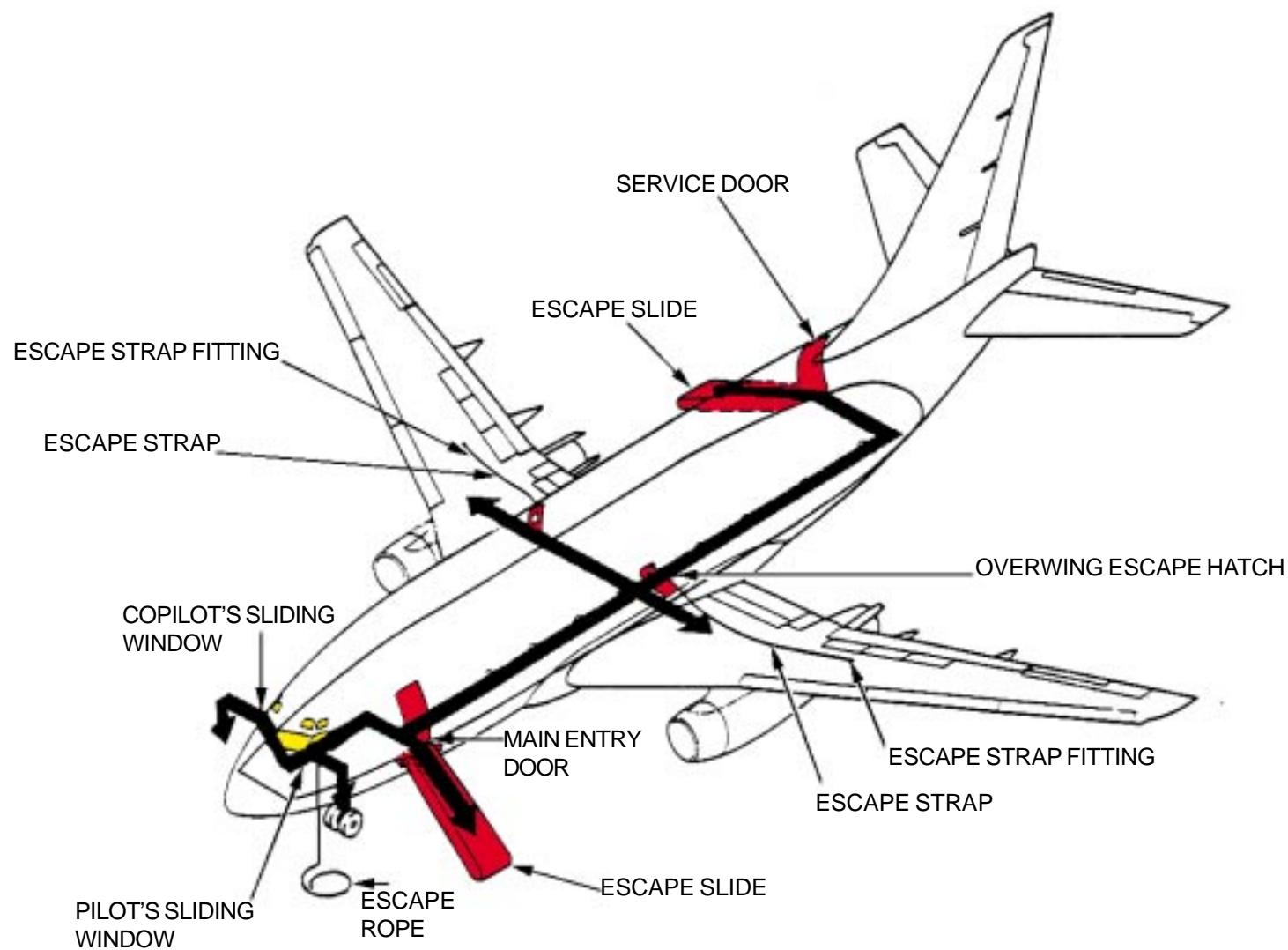
NOTE:

Instructor seats are equipped with fore and aft release levers which allow seat movement on rails. All other seats are securely fixed to the floor and are designed to swivel 360 degrees.

- b. Raise armrests to up position on training compartment seats, depress armrest adjustment release under pilot's and copilot's armrests, and raise up to position.
- c. Rotate lap belt release mechanism, remove shoulder harness and crotch strap.



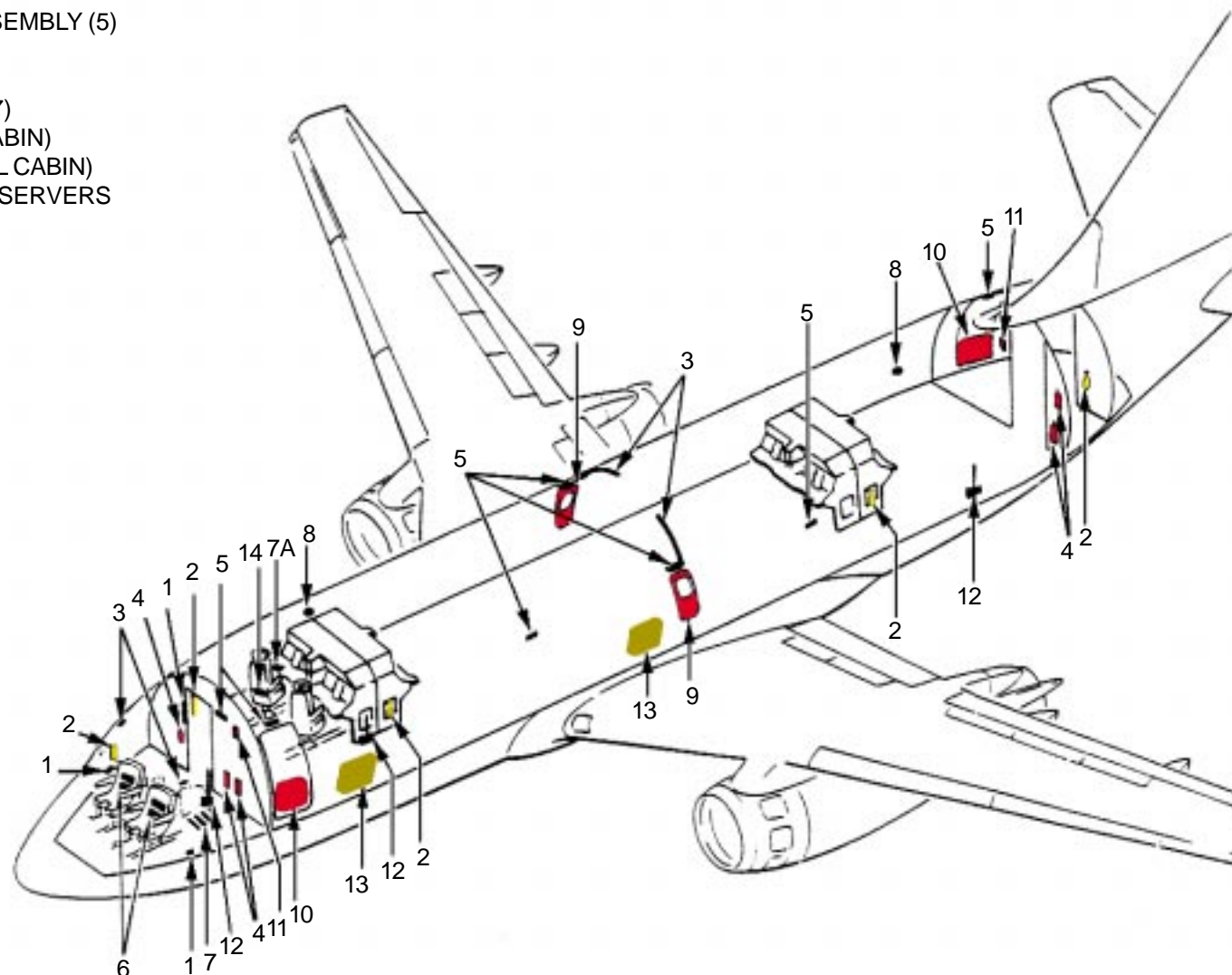
AIRCRAFT EMERGENCY EGRESS ROUTES



AIRCRAFT EMERGENCY EQUIPMENT LOCATION

LEGEND

1. SMOKE GOGGLES (13)
2. PORTABLE OXYGEN BOTTLE ASSEMBLY (5)
3. ESCAPE STRAP (4)
4. FIRE EXTINGUISHER (5)
5. PORTABLE EMERGENCY LIGHT (7)
6. LIFE PRESERVERS (CONTROL CABIN)
7. ANTI EXPOSURE SUITS (CONTROL CABIN)
- 7A. ANTI EXPOSURE SUITS/LIFE PRESERVERS (TRAINING COMPARTMENT)
8. EMERGENCY ALARM BELL (2)
9. ESCAPE HATCH (2)
10. ESCAPE SLIDE (2)
11. FIRST AID KIT (2)
12. CRASH AX (3)
13. LIFE RAFT (2)
14. EMERGENCY ESCAPE BREATHING DEVICE

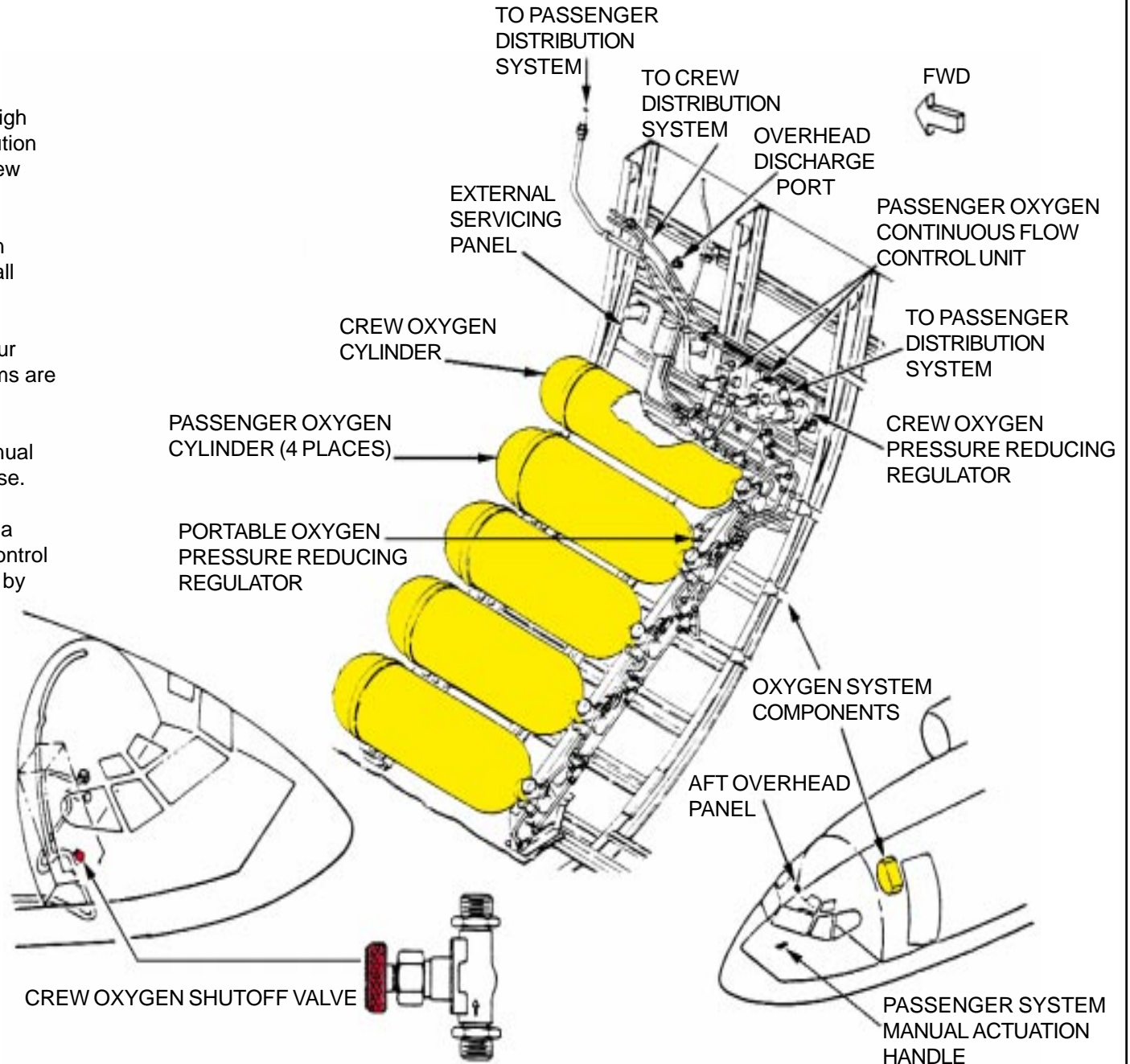


AIRCRAFT OXYGEN SYSTEMS

General Description and Operation

1. GENERAL

- a. The oxygen systems provide storage of high pressure gaseous oxygen and its distribution and delivery under low pressure to the crew and passengers.
- b. High pressure oxygen is stored in oxygen cylinders located on the right fuselage wall opposite the main left entry door.
- c. There is one crew oxygen cylinder and four passenger oxygen cylinders. The systems are not cross connected.
- d. The crew oxygen can be shutoff by a manual valve located behind the co-pilot, clockwise.
- e. The passenger oxygen can be shutoff by a manual valve located in a recess in the control cabin floor. Electrical activation ONLY is by a switch on the aft overhead panel in the control cabin. The system can not be electrically turned off.
- f. Five portable oxygen cylinder assemblies are located in the passenger cabin, and the control cabin, providing oxygen for first aid and walk-around use. See page T-43.7 item 2 for specific locations.



AIRCRAFT GENERAL INFORMATION, ENGINE HAZARDS AND DIMENSIONS

OT-47B

EFFECTIVITY:

This aircraft is considered a Joint Service aircraft. The commercial designation is Cessna 560 Citation Ultra and Encore and an improved versions of the Citation V. Both versions are considered a medium-range tracker/transport equipped with 7 seats; 3 forward facing and 4 double-club arrangement or a 8 seat double-club arrangement. Propulsion: two turbo-fan engines. Structure: all metal.

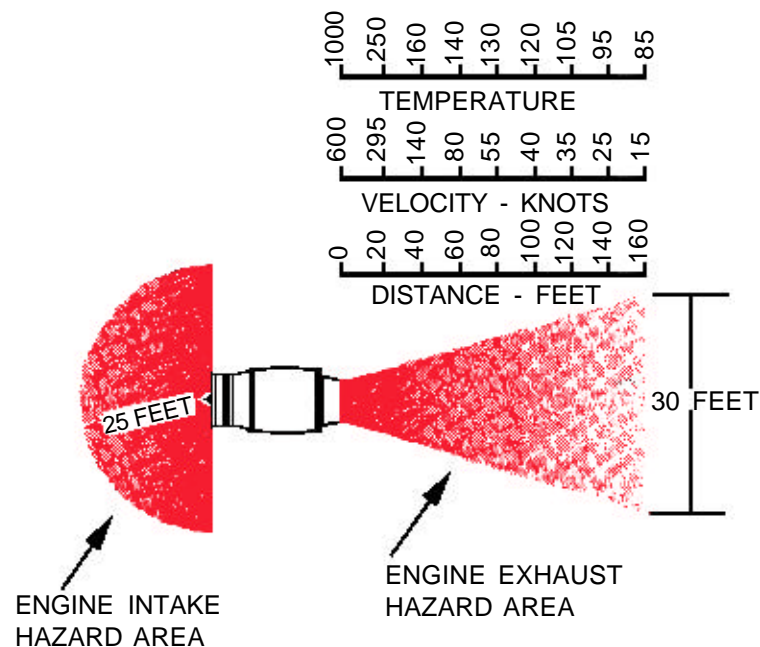
The Ultra version for the USAF designation is OT-47B, the US Army is UC-35A and the US Navy and Marines designation is UC-35C. The Spanish Air Force designation is TR.20.

The Encore version for the US Army is UC-35B and US Marines is UC-35D.

NOTE:

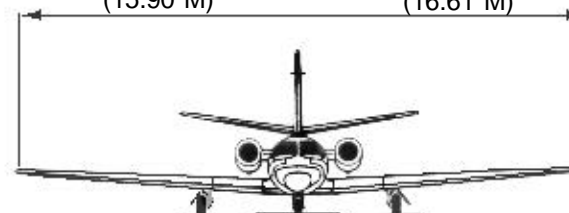
Length and height are the same for Ultra and Encore versions.

ENGINE HAZARD AREAS

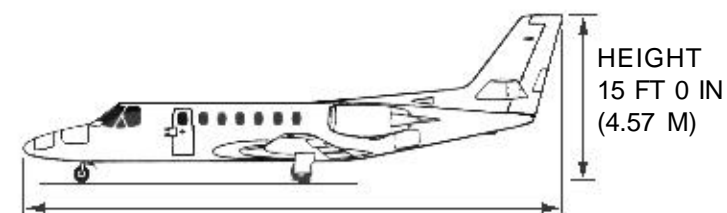


ULTRA
WING SPAN
52 FT 2 IN
(15.90 M)

ENCORE
WING SPAN
54 FT 6 IN
(16.61 M)



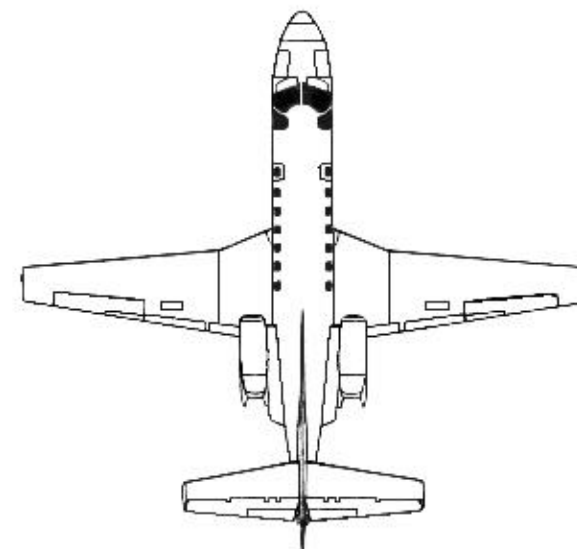
FRONT VIEW



LENGTH
48 FT 10.75 IN
(14.90 M)

HEIGHT
15 FT 0 IN
(4.57 M)

SIDE VIEW



TOP VIEW

AIRCRAFT HAZARDS

1. FLAMMABLE MATERIAL AND PRESSURE VESSEL LOCATIONS

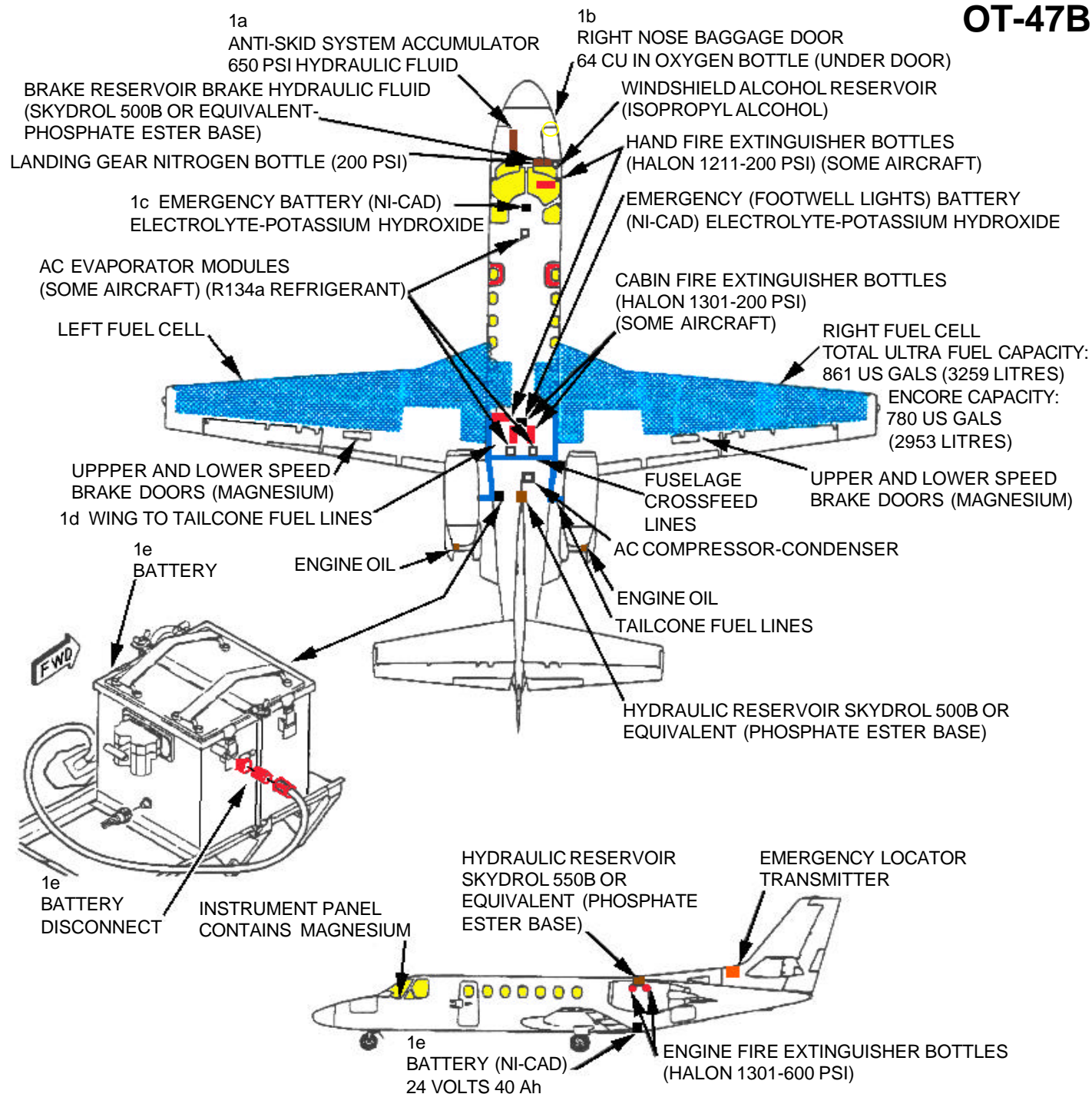
- Anti-skid system accumulator access is through left nose compartment door under avionics shelf.
- Right nose baggage door access brake reservoir, windshield alcohol reservoir and landing gear blowdown bottle behind baggage compartment upholstery panel. Oxygen bottle under baggage compartment door.
- Emergency battery. Inertial switch under headliner.
- Wing to tailcone fuel lines access is through wing to fuselage fairings.
- Battery is electrolyte-potassium hydroxide type is located in a sealed container approximately 30 inches forward of access door, vented to outside. To disconnect battery, unscrew knob and pull connector away from case.

WARNING

Cabin interior furnishings are fabricated from FAA approved materials. These materials may give off toxic fumes, melt and/or combust during exposure to extreme heat. Use of protective clothing and breathing apparatus are required until the area is declared safe.

WARNING

Ensure thrust reverser system is in the stowed position prior to tailcone entry.



SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw
Crash Ax
Fire Drill II

AIRCRAFT ENTRY

NOTE:

Oxygen lines are located in the Cut-In area at top of aircraft and may be pressurized. Shut off oxygen bottle prior to start of cutting operation if time permits. Rotate oxygen bottle knob to OFF position.

1. NORMAL ENTRY

NOTE:

Because of structure type and possible injury to passengers, it is recommended that access be directed to main entry and emergency exit doors.

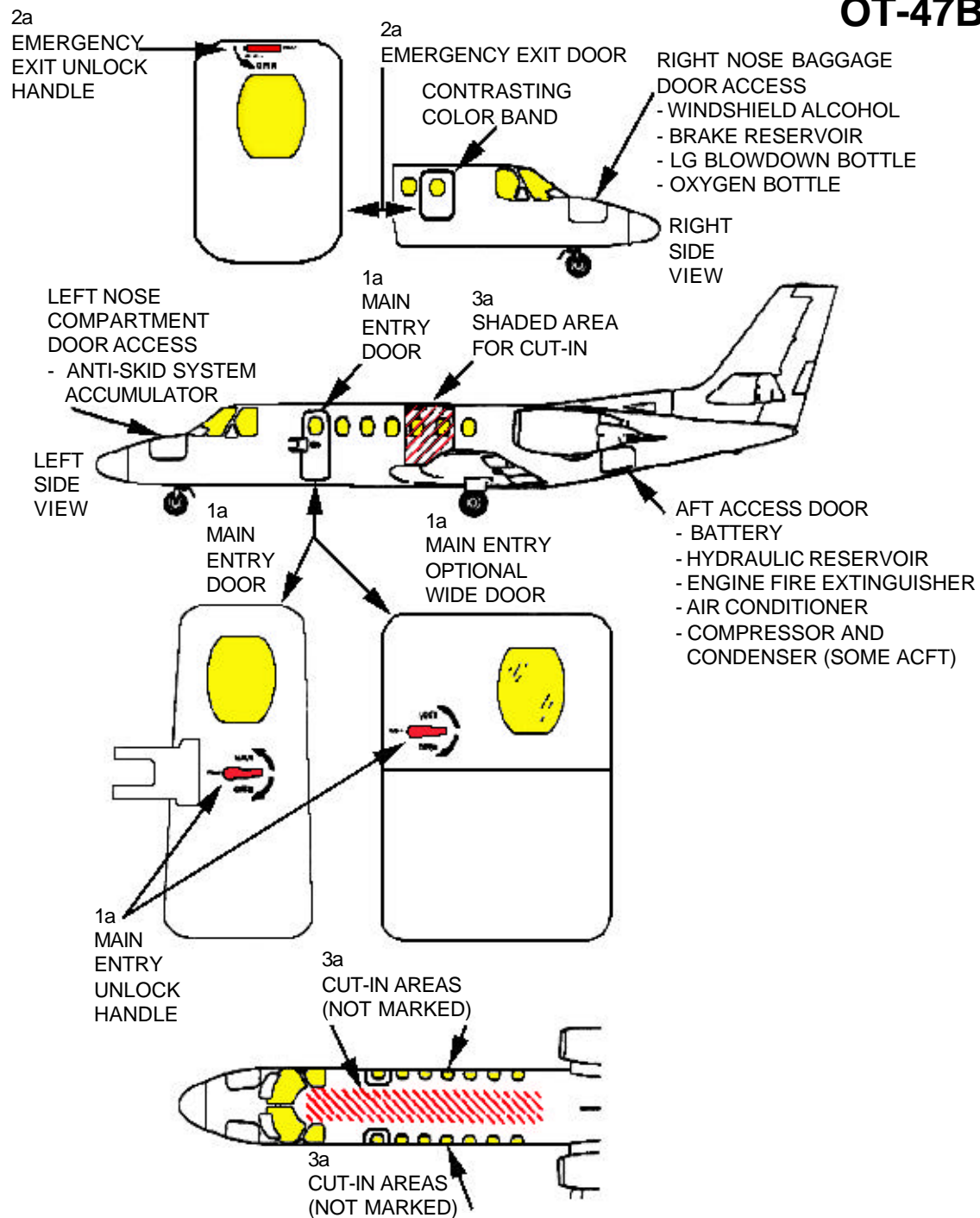
- a. Entry Door: Push in on large end of unlock handle, located on center of door, rotate handle clockwise, pull door out to open. If door is jammed, pry door outward.
- b. Wide Door (Optional): Push in on large end of unlock handle, located left of center of door, rotate handle clockwise, pull upper door, lift up lower door handle, located on top edge of lower door and pull lower door outward.

2. EMERGENCY ENTRY

- a. Push in on large end of handle, located top center of exit door, rotate handle counterclockwise to release latch, push exit door inward (do not block exit), if exit door is jammed, pry door inward.

3. CUT-IN

- a. Cut-in areas require metal cutting portable power equipment. To avoid injury to occupants, carefully cut out window and determine location of personnel inside aircraft before cutting.



ENGINE AND ELECTRICAL POWER SHUTDOWN

OT-47B

1. ENGINE AND ELECTRICAL POWER SHUTDOWN

NOTE:

The instrument panel depicts only items required for electrical and engine shutdown.

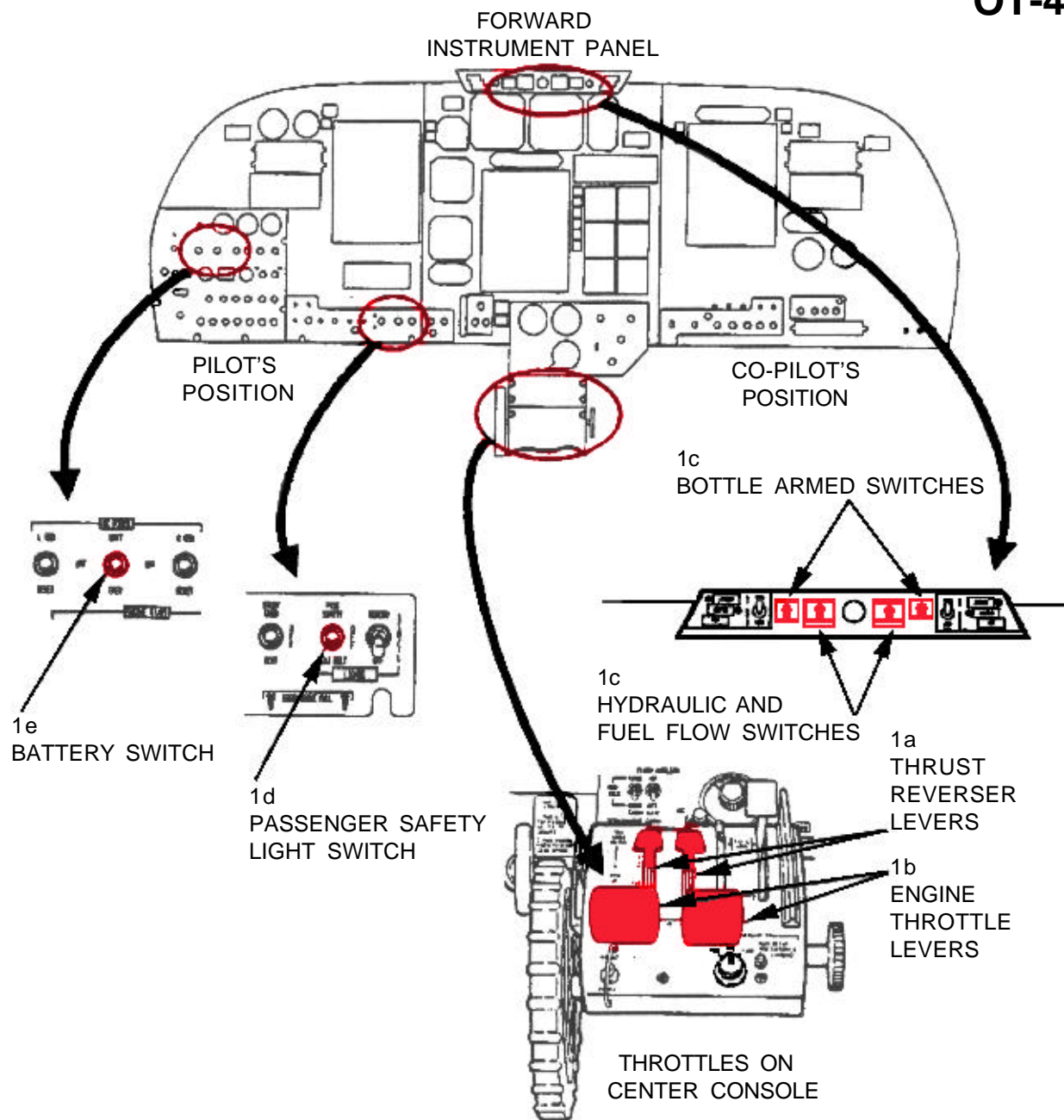
NOTE:

The aircraft is equipped with a small emergency battery and inertia switch that provide power to the cabin door and emergency escape hatch flood lights. In the event of an impact of 5 G's or more, these lights will illuminate and remain on until the inertia switch is reset.

NOTE:

If the emergency locator beacon is activated (on some aircraft), deactivate beacon.

- Pull thrust reversers, located on center console, aft to the OFF position.
- Pull engine throttle levers (2), located on center console, aft to the OFF position, to cut off fuel flow to engines.
- IN CASE OF ENGINE FIRE: push bottle armed switches (2), and press hydraulic and engine fuel flow switches (2), all located on top center instrument panel. (Battery switch must be on.)
- Place passenger safety light switch, located on pilot's lower instrument panel, to the OFF (center) position.
- Place battery switch, located on pilot's left instrument panel, to the OFF (center) position.



AIRCREW EXTRACTION

OT-47B

1. AIRCREW EXTRACTION

NOTE:

Aircraft is equipped with two seats in the flightdeck and five or six cabin seats. Last two cabin seats not pictured. Seats are removable to accomodate cargo, if necessary.

- a. Disconnect the four point release system restraints from the pilot and co-pilot by turning the circular buckle to release crew members. Restraint system consists of a seat belt and two shoulder harnesses. Seats can be adjusted up/down and forward/aft.
- b. Disconnect the three point release system restraints from the cabin occupants by pulling up on the restraint buckle. Restraint system consists of a seat belt and one shoulder harness. Seats can adjusted in the recline position and horizontally two inches on tracks toward center aisle.

CABIN INTERIOR
VIEW LOOKING FORWARD TOWARD FLIGHTDECK

